

## Resection of Lambl's Excrescence on the Aortic Valve in a Patient with Rheumatic Mitral Valve Disease and a Left Atrial Thrombus

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### ABSTRACT

Lambl's excrescences (LEs) are filiform strands that form on heart valves and are associated with an increased risk of stroke due to embolization. Although resection of these strands is generally recommended in patients who present with a stroke and no other identifiable cause, the management of incidentally discovered LEs in patients without an adverse cardioembolic event is less clear. We report a case of a patient with severe mitral valve stenosis from rheumatic heart disease and a large left atrial thrombus who was incidentally found to have multiple LEs on her aortic valve. In addition to replacing her mitral valve and removing the left atrial thrombi, we resected the LEs from her aortic valve due to their potential to cause a stroke and the relatively low associated morbidity in resecting them while keeping the aortic valve leaflets and valve function intact.

### INTRODUCTION

Lambl's excrescences (LEs) are thin, filiform strands that can form on cardiac valves and may occur as a single strand, in rows, or in clusters [Voros 1999; Nakahira 2008]. The differential diagnosis for these excrescences includes fibroelastoma, myxoma, thrombi, vegetations, cardiac neoplasms, and metastases.

LEs have been implicated as a source of embolism and cardioembolic stroke [Freedberg 1995; Roldan 1997; Aziz 2007]. In a case-controlled study, Freedberg and colleagues reported an 83% incidence of a cardioembolic event in patients with LEs compared to a 29% incidence in patients without LEs [Freedberg 1995]. Although resection of these strands is generally recommended in patients with a stroke and no other identifiable cause, the management of incidentally discovered LEs in patients who have not experienced an adverse cardioembolic event is less clear.

We report a case of a patient with severe mitral valve stenosis from rheumatic heart disease and a large left atrial thrombus who was incidentally found to have multiple LEs

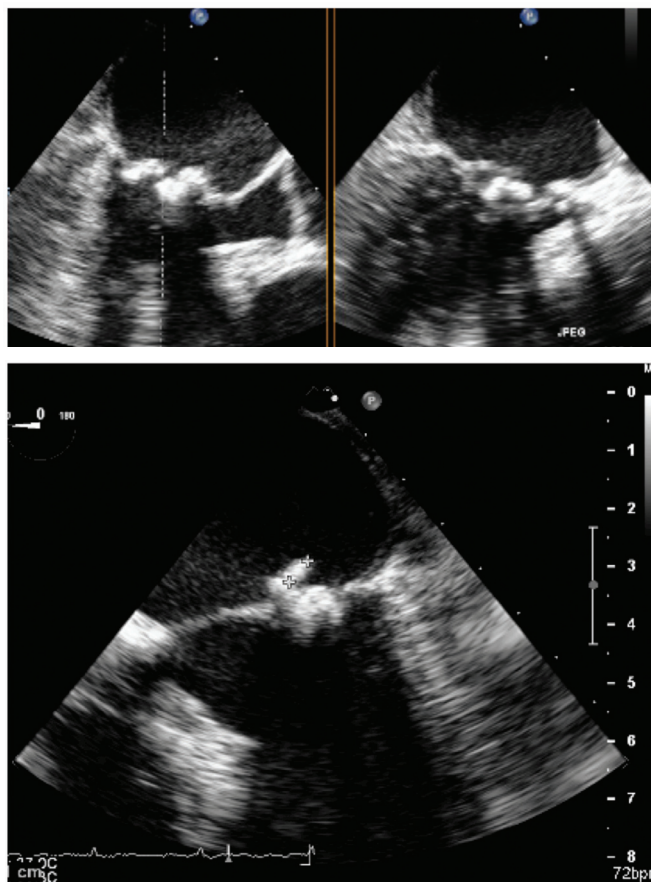


Figure 1. A, Severely calcified mitral valve. B, Calcified lesion on mitral valve.

on her aortic valve. This patient met indications for surgery because of her mitral valve pathology as well as the atrial thrombi. We are reporting the case to discuss the management of incidentally discovered LEs on the aortic valve in a patient who is already undergoing cardiac surgery for other indications: Should they be resected?

### CASE REPORT

The patient was a 77-year-old woman with a history of rheumatic mitral stenosis and worsening heart failure

Received February 6, 2012; accepted April 19, 2012.

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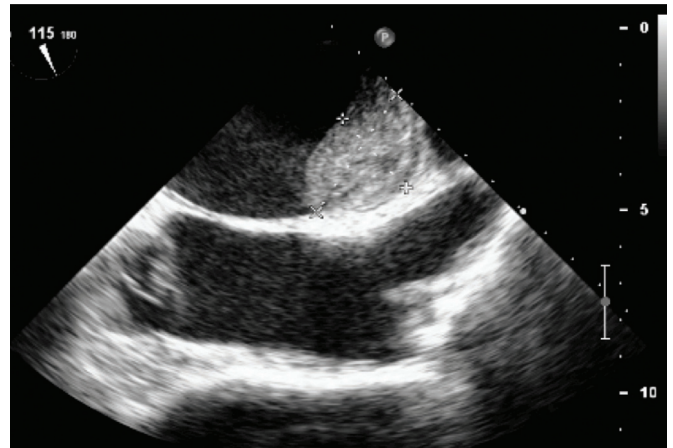
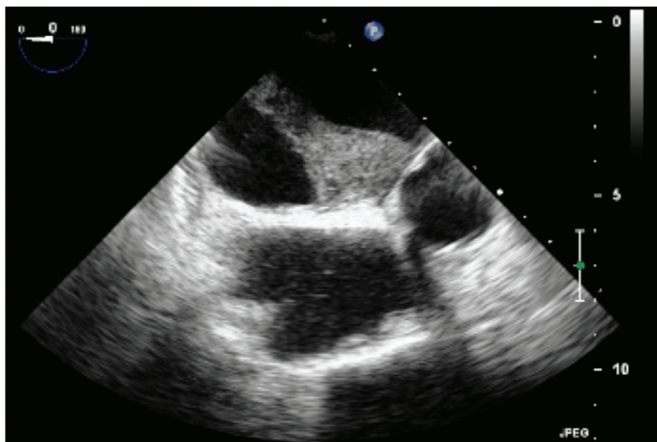


Figure 2. Left atrial thrombus..

symptoms who was referred for mitral valve replacement. She underwent an echocardiogram, which demonstrated severe mitral stenosis, severe calcification of the anterior and posterior leaflets, and a large left atrial thrombus (Figures 1 and 2). Also identified were multiple LEs on her aortic valve leaflets, although there was no aortic insufficiency (Figure 3). Despite the presence of a large thrombus in her left atrium as well as multiple excrescences on her aortic valve, the patient had no prior history of embolization or stroke.

Intraoperative transesophageal echocardiography (TEE) was performed and confirmed the preoperative findings. The patient underwent a mitral valve replacement with sparing of the posterior leaflet and subvalvar apparatus along with removal of the thrombus from the left atrium. We also performed an aortotomy and resected multiple excrescences on each of the aortic valve leaflets while preserving the aortic

valve leaflets and valve function. After uneventful weaning from cardiopulmonary bypass, TEE confirmed an adequately functioning mitral valve prosthesis, no residual left atrial thrombus, and no additional filamentous strands on the aortic valve.

Pathologic examination of the strands showed multiple fragments of yellow-gray soft tissue measuring 2 to 5 mm in length. Histology revealed fibrosis with focal myxoid degeneration consistent with LEs (Figure 4). The patient had an uneventful postoperative course.

## DISCUSSION

Studies regarding the clinical importance of LEs have been inconclusive with respect to their associated risk of causing a cardioembolic stroke [Freedberg 1995; Roldan 1997; Aziz 2007]. In this particular case, we opted to resect the LEs on

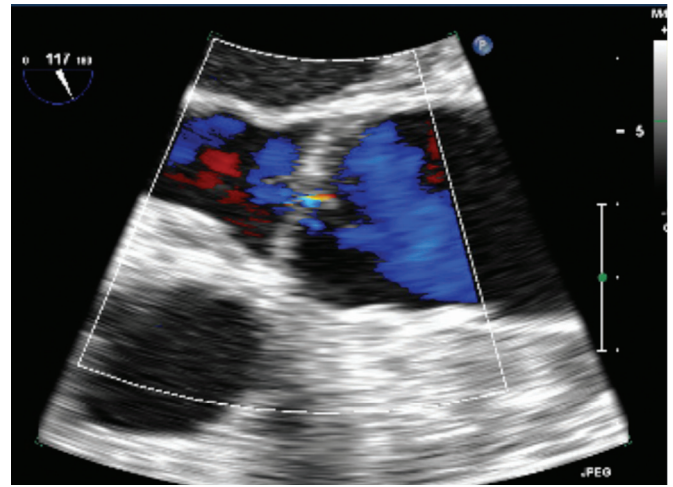
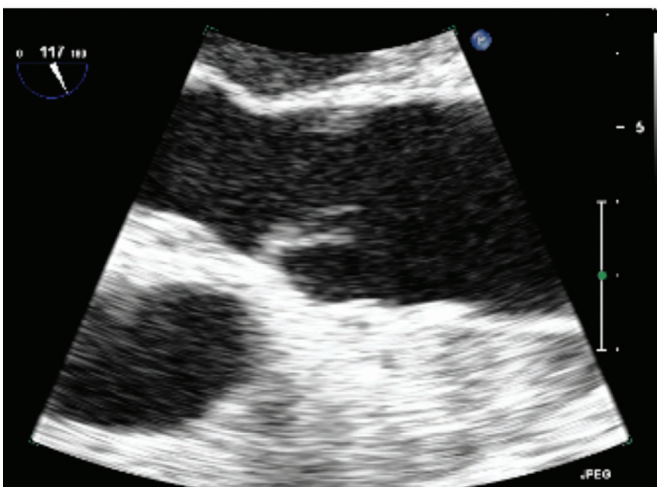


Figure 3. A, Transesophageal echocardiography (TEE) view of Lambert's excrescence on aortic valve. B, Lambert's excrescence on aortic valve without any aortic insufficiency.

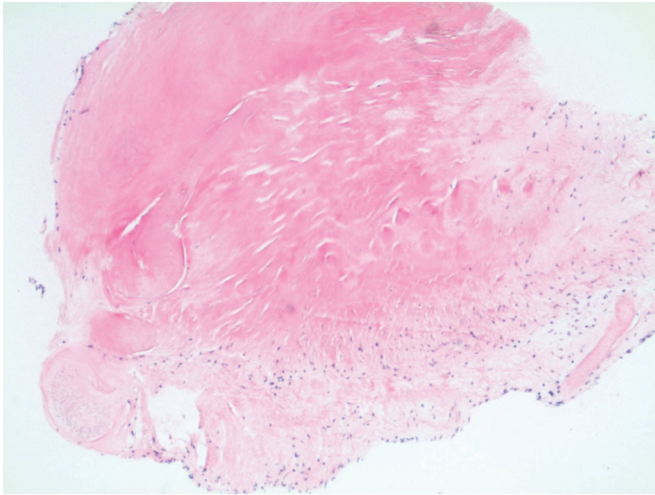
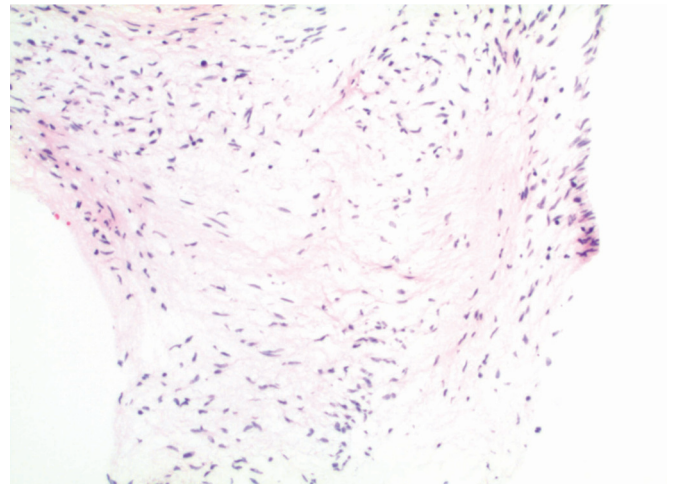


Figure 5. Histology of valvular strands.



the aortic valve because the patient was already being operated on for other indications and because we calculated that it was relatively low risk and safe to do so.

There are currently no formal recommendations or outlined indications for surgical resection of LEs as an isolated, stand-alone procedure for a patient who presents with an embolic event and LEs. These patients may benefit from resection of the LEs especially if there are no other causes for the stroke. However, surgical intervention versus conservative observation, including anticoagulation, needs to be determined on a case-by-case basis and should be based on the estimated risk of the operation for each individual patient [Homma 2004].

For patients already undergoing cardiac surgery for other cardiac indications, such as was the situation in the case presented above, we believe that the risk–benefit ratio generally favors proceeding with an aortotomy and removing the LEs from the aortic valve because, in general, this does not add significant morbidity or risk for most patients and likely reduces the incidence of future stroke. Additionally, LEs can generally be easily shaved off the valve leaflets with no impact on aortic valve function. Further analysis, including a multi-institutional review of this issue,

however, is necessary before more definitive recommendations regarding the management of Lambl's excrescence can be made.

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