

Five chambered heart or large atrial appendage aneurysm: A report of two cases

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Case Report

Abstract

BACKGROUND: Isolated intrapericardial LAA aneurysm is a rare cardiac anomaly which manifests with angina, dyspnea on exertion (DOE), systemic embolization, arrhythmia, and congestive heart failure.

CASE REPORT: A 30-year-old female and a 46-year-old male were referred for evaluation of abnormal cardiac contour on chest radiograph and echocardiographic findings and non-specific symptoms. Transesophageal echocardiography suggested left atrial appendage (LAA) mass filled with clots. The mass had no compression on cardiac chambers and global ejection fraction was within normal limits. The intraoperative diagnosis was isolated congenital LAA aneurysm. After confirmation of the diagnosis, it was resected. She was discharged with uneventful postoperative course. At follow-up she was asymptomatic.

CONCLUSION: These cases demonstrate the role of on-time surgical approaches in the prevention of fatal complication of this rare cardiac anomaly.

Keywords: Left Atrial Appendage, Aneurysm, Clot

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Introduction

Isolated intrapericardial LAA aneurysm is a rare cardiac anomaly which manifests with angina, dyspnea on exertion (DOE), systemic embolization, arrhythmia, and congestive heart failure.^{1,2} Enlarged LAA is associated with an increasing risk of thrombus formation and untreated cases progress to a stroke.^{3,4} Most of the cases present in healthy young patients.⁴ In the current essay, we report two cases of aneurysm of LA appendage which were excised at diagnosis on cardiopulmonary bypass (CPB). Patients have been asymptomatic over the follow-up period.

Case Report

In the current report, we present two of our cases. The first one was a 30-year-old woman who was referred to us for the evaluation of recent easy fatigability and an abnormal chest radiograph. She was previously an asymptomatic healthy person. Physical examination and electrocardiography were normal. Chest radiography (Figure 1) showed enlarged cardiothoracic ratio with enlarged LAA.

Following abnormal trans-thoracic echocardiography (TTE), transesophageal echocardiogram (TEE) was performed, which showed aneurysmal enlargement of LAA, filled with clots and without compression of cardiac chambers (Figure 2). Global ejection fraction was normal (60%). Cardiac CT angiography was performed suggesting aneurysm of LAA.

Our second case was a 46-year-old male with the chief complaint of DOE within the past three months (NYHA Functional class III). He was a cigarette smoker, with the past history of poliomyelitis and stroke (two months ago). His physical examination was normal except for right-sided paralysis. ECG showed left atrial abnormality. TTE demonstrated large pseudoaneurysm of the pericardium with spontaneous echo contrast and filled with clot. This was opened into left atrial chamber with an orifice. The color flow Doppler study demonstrated flow in and out of the aneurysmal chamber. Dilated coronary sinus is also in favor of increased intra-atrial pressure (Video 1).

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Intra-operative diagnosis of both cases confirmed large intrapericardial LAA aneurysm ($5 \times 4 \times 4 \text{ cm}^3$) (Figure 3). In both cases, the LAA aneurysms have been resected on cardiopulmonary



Figure 1. Chest radiograph suggesting increased cardiothoracic ratio and left heart configuration due to large left atrial appendage aneurysm

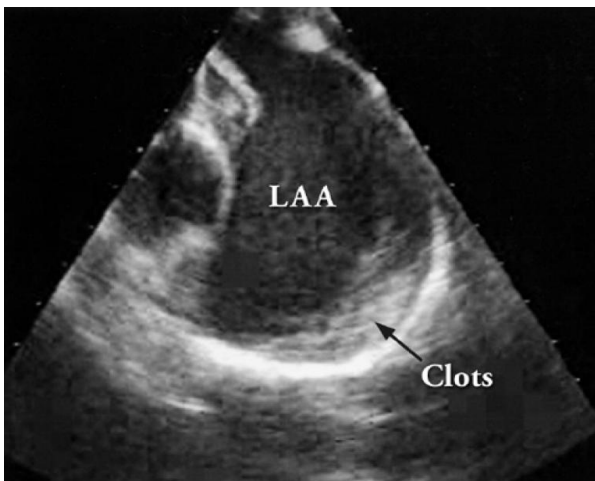


Figure 2. TTE (Trans-thoracic echocardiography) views suggesting large left atrial appendage aneurysm filled partially with clots

Discussion

Isolated aneurismal dilation of LAA is an infrequent non-rheumatic mitral valve disease.⁵ Until now, few cases of this disease have been described in cardiac literatures. Untreated cases develop fatal complications.² We have reported two cases of LAA aneurysm, treated successfully by surgical resection of aneurysm and clot removal. In both cases, with non-specific findings, abnormal cardiac imaging helped in the incidental diagnosis of this rare isolated anomaly. Chest radiographs showed enlarged LAA. Left atrial anomaly was present in

bypass pump and the orifice has been closed. Patients were symptom-free and in sinus rhythm during the post-operative course and on follow-up.

only one case. Gold's diagnostic criteria for LAA aneurysm include: intrapericardial, communication with body of left atrium, and compression of left ventricular (LV) cavity.⁶ In these cases, there was no compression of LV cavity. By resection of the aneurysm, patients became asymptomatic and in sinus rhythm. These cases demonstrate the role of on-time surgical approaches in the prevention of fatal complication of this rare cardiac anomaly.

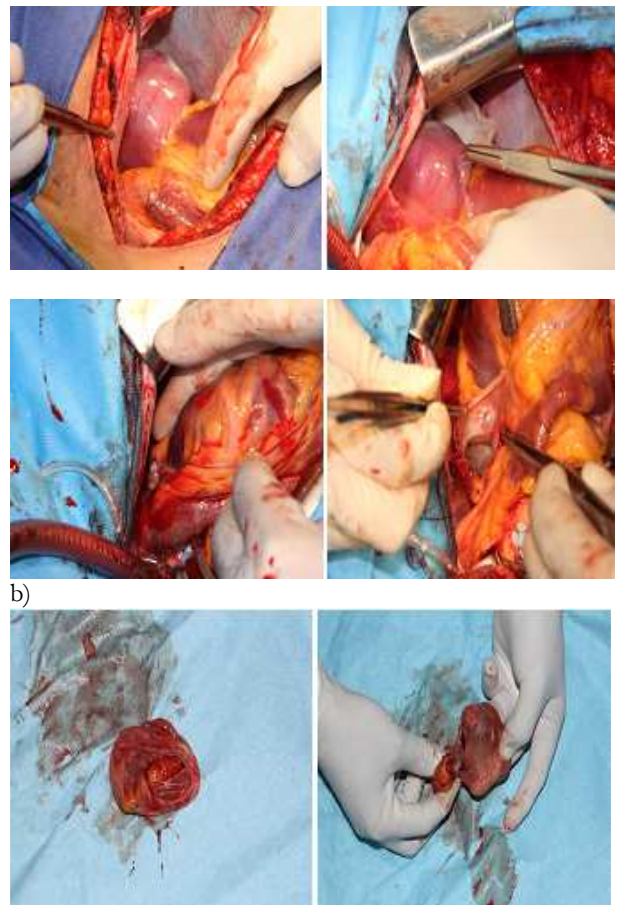


Figure 3. Intraoperative views taken from large congenital left atrial appendage aneurysm a) from first case, b) from second case

Conflict of Interests

Authors have no conflict of interests.

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