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Figure 1. Apical 4-chamber view of the heart on echocardiography, showing a large, communicating, left atrial appendage aneurysm. Left atrium (asterisk), communication between the atrium and the aneurysm (arrowhead), and the left atrial appendage aneurysm (arrow).



Figure 2. Chest radiograph showing cardiomegaly and prominent left heart border caused by the aneurysm. Left atrial appendage aneurysm (arrow).



Figure 3. CT angiography coronal view showing the left atrial appendage aneurysm with its communication with the left atrium. Left atrium (asterisk), communication between the atrium and the aneurysm (arrowhead), and the left atrial appendage aneurysm (arrow).

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A previously healthy 20-year-old woman presented to the emergency department with intermittent brief unprovoked palpitations for the past 6 months, including immediately before presentation. Her pulse rate was irregularly irregular, at approximately 80 beats/min; other vital signs and the remainder of the physical examination results were unremarkable. The ECG showed slow atrial fibrillation. The emergency physician performed bedside ultrasonography, which demonstrated a large anechoic cavity adjoining the left atrium within the pericardial sac and communicating with the left atrium (Figure 1 and Video E1 [available online at <http://www.annemergmed.com>]). This diagnosis was confirmed by chest radiography (Figure 2) and computed tomography (CT) angiography (Figure 3).

For the diagnosis and teaching points, see page 304.

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*(continued from p. 303)***DIAGNOSIS:**

Left atrial appendage aneurysm. The CT angiography demonstrated 10.2×8.3×11.0-cm aneurysmal dilatation of the left atrial appendage. The patient underwent resection of the aneurysm and closure with bovine pericardium and was asymptomatic at 6-month follow-up.

Left atrial appendage aneurysm is a very rare entity, usually detected in the second to fourth decade of life.¹ These defects usually present as palpitations, dyspnea, or systemic embolization such as cerebrovascular events. Atrial fibrillation or flutter is the most common cardiac arrhythmia in these patients.¹ Diagnosis is confirmed by echocardiography or CT angiography. Because of the serious risk of life-threatening complications, early surgical excision of the aneurysm with repair of the atrium is indicated even in asymptomatic patients.²

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