A 69-year-old man with no history of chest trauma was admitted to our institution complaining of blunt and severe central chest pain of cataclysmic onset radiating to the back. His medical history was remarkable only for a chronic atrial fibrillation treated with warfarin and amiodarone. On arrival, his ECG showed atrial fibrillation at 120 bpm with no signs of myocardial ischemia. Laboratory examination was uneventful except for an international normalized ratio of 7. With the presumptive diagnosis of acute aortic syndrome, a thoracoabdominal high-resolution contrast-enhanced computed tomography scan was performed that showed a large mass at the level of the left atrium (LA) and a moderate pericardial effusion (Figure 1 and Movie I in the online-only Data Supplement). Linear attenuation coefficients of the LA mass and pericardial fluid were suggestive of acute clot and blood (60 and 50 Hounsfield units, respectively). No signs of malignancy, pulmonary embolism, or aortic disease were found. During evaluation, our patient’s clinical condition deteriorated rapidly with signs and symptoms of cardiogenic shock; thus, emergent intubation and inotropic support were established. Preoperative and intraoperative transesophageal echocardiogram demonstrated a $2 \times 3$-cm LA tumor bulging into the lumen and involving the left pulmonary veins and the mitral valve but with no apparent compromise (Figure 2 and 3 and Movie II in the online-only Data Supplement). With the diagnosis of LA hematoma, anticoagulation was reversed into the lumen and extending to the left pulmonary veins. No pericardial adhesions or signs of infiltration were present. Despite careful examination, no distinct point of bleeding was demonstrated. The left atrio-ventricular groove seemed intact. To exclude stenosis of the left pulmonary vein or mitral valve dysfunction, we decided to go on pump and cross-clamp the aorta. The pulmonary veins and mitral valve were inspected through a left atriotomy. A bulky mass was apparent under the endocardium of the LA occupying a large area of the LA lumen. However, a 10-mm Hegar dilator passed easily through the left pulmonary veins. In addition, the inflow area of the mitral valve seemed unobstructed, the annulus looked intact, and the leaflets did not prolapse; therefore, we decided not to open the endocardium and drain the hematoma. Our patient had an uneventful recovery and was discharged home on postoperative day 7. Three months after surgery, a follow-up echocardiogram depicted resolution of the LA hematoma (Movie II in the online-only Data Supplement).

**Discussion**

LA hematoma is a very rare entity that has been reported after either interventional or surgical procedures. Spontaneous occurrence is even more infrequent, with only 3 previous cases reported in the literature. Clinical presentation is usually not acute and is determined by compression of the adjacent structures (especially the mitral valve and pulmonary veins) or the presence of a hemopericardium. Diagnosis is challenging and usually performed by echocardiography and cardiac magnetic resonance imaging. Although conservative treatment has been reported, cardiac surgery is the most common approach to this condition. In our case, unique presentation as an acute aortic syndrome prompted us to perform a high-resolution contrast-enhanced computed tomography scan, which was useful for depicting the anatomic features of mass and its relationship with the adjacent structures. Therefore, other conditions involved in the differential diagnosis such as myxoma or pulmonary embolism were ruled out. Furthermore, measurement of the linear
attenuation coefficient strongly suggested LA hematoma. Surgical exploration solved the hemopericardium, clarified the nature of the mass, and allowed careful exploration of the hematoma and its mass effect on the surrounding structures.

Figure 1. Composite picture of high-resolution contrast-enhanced computed tomography images showing axial (A), sagittal (B), and longitudinal (C) images of the left atrial hematoma and its anatomic relationships. Note the presence of a moderate hemopericardium.

Figure 2. Intraoperative transesophageal echocardiogram image showing a large hematoma. Note its relationship with the mitral valve. RA indicates right atrium; LA, left atrium; RV, right ventricle; and LV, left ventricle.

Figure 3. Intraoperative transesophageal echocardiogram image depicting a mass occupying a large area of the left atrial lumen. LA indicates left atrium; LV, left ventricle.

Conclusions

LA hematoma is a very rare condition that may present as an acute aortic syndrome. High-resolution contrast-enhanced computed tomography scan is useful to depict the anatomic features of the mass and to assist with the differential
diagnosis. Surgery may clarify the nature of the tumor and solve its complications and therefore is the preferred approach to this life-threatening condition.

Disclosures
None.

References
Spontaneous Left Atrial Hematoma Mimicking an Acute Aortic Syndrome: The Utility of High-Resolution Computed Tomography
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