A 73-year-old woman who had undergone hysterectomy and radiotherapy 17 years previously for uterine leiomyosarcoma presented to the emergency department with new-onset exertional shortness of breath of 4-days duration. On admission, she was dizzy and tachypneic at rest. Chest auscultation revealed an apical diastolic murmur, gallop, and bilateral rales, and bilateral pleural effusion and interstitial edema were noticed in the chest x-ray film. In order to rule out pulmonary embolism, a thoracic angio–computed tomography (CT) scan was performed showing enlarged right paratracheal lymph nodes and a left atrial mass extending to the left ventricle (Figure 1). Transthoracic echocardiography confirmed the presence of a large mass in the left atrium prolapsing across the mitral valve into the left ventricle during early diastole and returning to the left atrium during early systole, thus reminiscent of chewing gum. The mass caused moderate-to-severe obstruction to the left ventricular inflow tract: a mean transvalvular diastolic gradient of 10 mm Hg and maximum transvalvular diastolic gradient of 15 mm Hg were documented (Figure 2). Because the absence of atrial fibrillation or other procoagulant clinical conditions raised the probability of atrial thrombi, and also because of the homogeneous echostructure, regular shape, and smooth borders of the mass, atrial myxoma was the first presumptive diagnosis, and the patient underwent urgent cardiac surgery. Before the operation, a coronary angiography was performed showing a single significant stenosis in the left anterior descending artery. During surgery, intraoperative transesophageal echocardiogram monitoring was undertaken, which suggested that the mass might emerge to the left atrium from the right inferior pulmonary vein (Figure 3 and online-only Data Supplement Movies I through III). This fact was confirmed by visual inspection, and the mass was resected using a left atrium–based approach. Its maximum diameter was 8.5 cm (Figure 4).

Pathological analyses supplied the final diagnosis of actin-vimentin–positive fusocellular sarcoma (leiomyosarcoma). Before discharge, a new thoracic CT scan was performed to complete the study (Figure 5), which demonstrated a necrotic area in the right inferior lobe, occlusion of the right inferior bronchus, and abdominal and thoracic metastatic dissemination. The patient was referred for oncological therapy. Given that primary cardiac leiomyosarcoma was exceptionally well...
described, venous metastatic dissemination emerging from the remote uterine malignant leiomyosarcoma was the most probable hypothesis to explain this rare finding.

At the time of primary diagnosis, leiomyosarcoma often shows advanced local invasion or even metastasis. Almost all malignant tumors are sarcomas and occur preferentially in the right side of the heart, with the exception of leiomyosarcoma and cardiac myxoma, which occur in the left atrium. The preferential left atrial location and the frequently myxoid appearance of leiomyosarcomas makes them difficult to differentiate preoperatively from atrial myxomas. Treatment of cardiac leiomyosarcomas consists of radical surgical resection followed by adjuvant radiation, chemotherapy, or both. Leiomyosarcomas originating from vascular and cardiac tissues may have a poor prognosis, with a mean survival after surgery and adjuvant therapies of 6.8 months.

**Disclosures**

None.

**References**


**Figure 3.** Intraoperative transesophageal echocardiogram suggesting that the mass might emerge to the left atrium from the right inferior pulmonary vein.

**Figure 4.** Macroscopic image of the mass with a maximum diameter of 8.5 cm.

**Figure 5.** Postoperative thoracic CT scan demonstrating a necrotic area in the right inferior lobe, occlusion of the right inferior bronchus, and abdominal and thoracic metastatic dissemination.
Chewing Gum Inside the Heart
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