A 57-year-old woman had a history of idiopathic hypereosinophilic syndrome (previously treated with hydroxyurea) and recent progression to myelodysplastic syndrome. She presented with 6 months of fatigue, 2 months of progressive dyspnea on exertion and orthopnea, a 10-pound weight gain, and increased abdominal girth. On admission, she appeared chronically ill and had tachycardia, jugular venous distention to the angle of the jaw, bilateral basilar rales, an S3 gallop, and trace peripheral edema. An ECG revealed sinus tachycardia, septal Q waves, and inferolateral STT wave changes. A transthoracic echocardiogram revealed masses in the apices of the left and right ventricular cavities but normal biventricular size and function. During her initial hospital course, she was treated for eosinophilic endomyocardial disease with steroids, diuresis, and anticoagulation without resolution of symptoms. Surgical resection of the masses was considered, but because it was unclear whether a plane existed between the apical masses and the myocardium, we performed an MRI of the heart (Figures 1 to 4). A distinct plane was demonstrated; therefore, surgery was performed with removal of the left and right ventricular apical masses. Significant diuresis occurred, followed by clinical improvement. Pathological examination of the masses demonstrated thrombus.

Figure 1. Four-chamber, long-axis, breath-hold, T1-weighted gradient echo cine image showing masses in apex of right and left ventricles.

Figure 2. Two-chamber, long-axis, T1-weighted gradient echo cine image in parasagittal plane showing left ventricular apical mass with distinct signal properties from the myocardium.
Figure 3. T1-weighted gradient echo-tagged end-systolic cine image in the 4-chamber long-axis plane demonstrating intramyocardial dysfunction in the left ventricular apex (lack of tag stripe deformation) but preserved function in the basal septum and lateral wall.

Figure 4. First-pass, inversion-recovery gadolinium–diethylene triaminepentacetic acid (Gd-DPTA)–enhanced image in 4-chamber, long-axis plane. Intact perfusion of the myocardium, no perfusion of the mass, and a distinct plane between the mass and myocardium were identified.
Hypereosinophilic Syndrome and Restrictive Cardiomyopathy Due to Apical Thrombi
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