A 46-year-old woman was hospitalized for acute heart failure. Transthoracic echocardiogram showed a left ventricular (LV) end-diastolic dimension of 5.6 cm, normal LV systolic function, and malcoaptation of the aortic leaflets (Movie I in the online-only data supplement). M-mode showed type A early closure of the mitral valve (Figure 1).1 Color Doppler showed a regurgitant jet width that occupies nearly the entire LV outflow tract and a large vena contracta (Figure 2). Continuous-wave Doppler showed markedly decreased pressure half-time (Figure 3) and holodiastolic flow reversal in the abdominal aorta (Figure 4). Left heart catheterization with simultaneous LV and aortic pressure measurements showed increased LV end-diastolic pressure (30 mm Hg), widened aortic pulse pressure (130/35 mm Hg), and near equalization of LV and aortic end-diastolic pressures (Figure 5). Aortogram showed complete opacification of the LV (Movie II in the online-only data supplement). These findings are pathognomonic for acute severe aortic regurgitation.

Disclosures
None.

Reference
Figure 3. Continuous-wave Doppler showing pressure half-time of 89 ms.

Figure 4. Continuous-wave Doppler showing holodiastolic flow reversal in the abdominal aorta (arrow).

Figure 5. Hemodynamic tracing showing elevated left ventricular (LV) end-diastolic pressure (arrow), widened aortic pulse pressure (arrowheads), and near equalization of LV and aortic end-diastolic pressures.
Classic Hemodynamic Findings of Severe Aortic Regurgitation
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