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
Xiushui Ren and Nader M. Banki

Circulation. 2012;126:e28-e29
doi: 10.1161/CIRCULATIONAHA.112.103937
Circulation is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
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Print ISSN: 0009-7322. Online ISSN: 1524-4539

The online version of this article, along with updated information and services, is located on the
World Wide Web at:
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