JACC: CARDIOVASCULAR INTERVENTIONS
VOL. 5, NO. 11, 2012

ISSN 1936-8798/$36.00
PUBLISHED BY ELSEVIER INC.
http://dx.doi.org/10.1016/j.jcin.2012.08.010

IMAGES IN INTERVENTION

Acute Inferior Myocardial Infarction Complicated by a Very Large Ventricular Septal Rupture and Cardiogenic Shock

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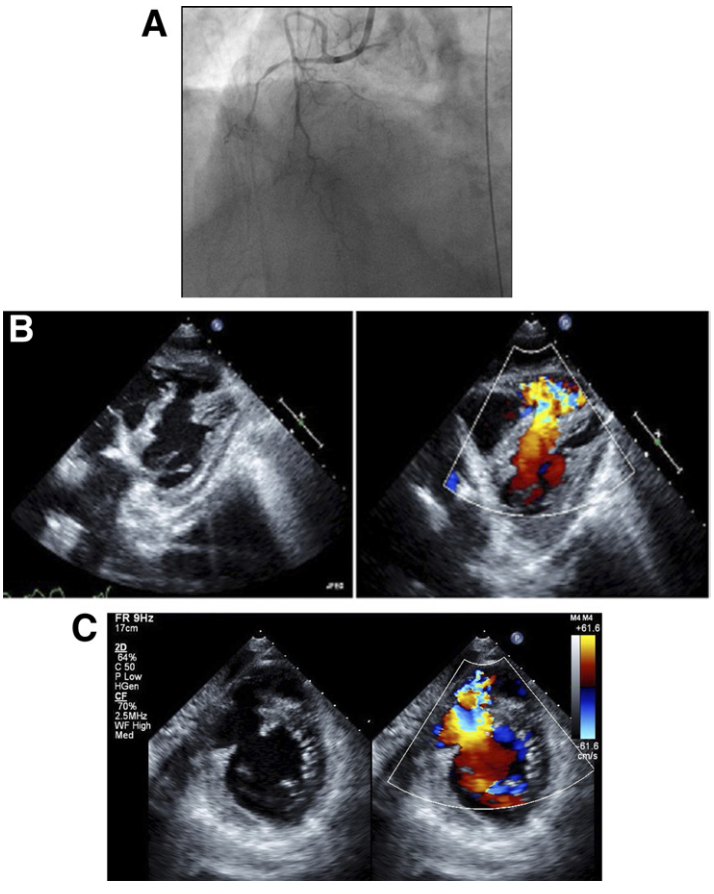

Figure 1. Coronary Angiography of RCA and Echocardiogram in an Elderly Female Ex-Smoker with Ventricular Septal Rupture

(A) Coronary angiogram of right coronary artery (RCA) showing proximal total occlusion. **(B)** Subcostal view on 2-dimensional electrocardiography. **(C)** Short axis view of the left ventricle on 2-dimensional echocardiogram, with and without color Doppler, showing large direct ventricular septal rupture. See Online Videos 1, 2, 3, 4, and 5.

A 71-year-old female ex-smoker presented with 16 hours of progressive dyspnea with an electrocardiogram that showed ST-segment elevation and Q waves in inferior leads. Upon arrival, she was in cardiogenic shock with a systolic blood pressure of 60 mm Hg. Left and right cardiac catheterization demonstrated total occlusion of a dominant right coronary artery (Fig. 1A, Online Video 1) with

From Hartford Hospital, Hartford, Connecticut. All authors have reported that they have no relationships relevant to the contents of this paper to disclose.

Manuscript received July 22, 2012; accepted August 2, 2012.

JACC: CARDIOVASCULAR INTERVENTIONS, VOL. 5, NO. 11, 2012
NOVEMBER 2012:e35–6

Table 1. Hemodynamic Data Derived from Right and Left Heart Catherization

Parameter	Value
RA pressure	24 mm Hg
RV pressure	49/29 mm Hg
PA pressure	38/25 mm Hg
Pulmonary capillary wedge pressure	25 mm Hg
RA oxygen saturation	29%
RV oxygen saturation	99%
PA oxygen saturation	97%
AO oxygen saturation	99%

AO = aorta; PA = pulmonary artery; RA = right arterial; RV = right ventricular.

elevated filling pressures and a significant oxygen saturation step-up in the right ventricle (RV) (Table 1). Transthoracic echocardiography revealed a very large inferior ventricular septal rupture (VSR) associated with a left-to-right shunt (Figs. 1B and 1C, Online Videos 1, 2, 3, and 4) with elevated filling pressures and a significant oxygen saturation step-up in the right ventricle (RV) (Table 1). Transthoracic echocardiography revealed a very large inferior ventricular septal rupture (VSR) associated with a left-to-right shunt (Figs. 1B and 1C, Online Videos 2, 3, 4, and 5). She was immediately taken to the operating room, where she died secondary to multiple irreparable rupture sites at the right ventricle. VSR is associated with risk factors including advanced age, female sex, tobacco use, first infarction, and a lack of collaterals. Historically, inferior VSRs have been associated with a poor prognosis.

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Key Words: coronary angiography ■ right coronary artery ■ ventricular septal rupture.

APPENDIX

For supplementary videos and their legends, please see the online version of this article.