

IMAGES IN INTERVENTION

Double Ventricular Rupture After Inferolateral Myocardial Infarction

A Rare Mechanical Complication

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An 80-year-old female patient presented to emergency department with cardiogenic shock. In the previous week, she had intermittent episodes of oppressive chest pain. The night before, she had another episode that persisted for several hours. The following afternoon, she collapsed and the prehospital emergency team was triggered. On admission, she was hypotensive (60/30 mm Hg) and needed support with norepinephrine. The electrocardiogram revealed inferolateral ST-segment elevation, with inferior, posterior, and lateral wall akinesia and an anterior moderate pericardial effusion, with neither right atrial nor right ventricular (RV) collapse on transthoracic echocardiography.

The emergent coronary angiography demonstrates occlusion of the circumflex artery (Figures 1A and 1B) and moderate disease of the right coronary artery (Figure 1C). Left ventriculography showed simultaneous opacification of both ventricles (Figure 1D, asterisk indicates the RV) without contrast extravasation for the pericardium, suggestive of septal rupture. However, given the presence of pericardial effusion on the transthoracic echocardiography, a

manual injection of contrast in the RV was performed confirming the wall rupture (Figure 1E, arrowhead).

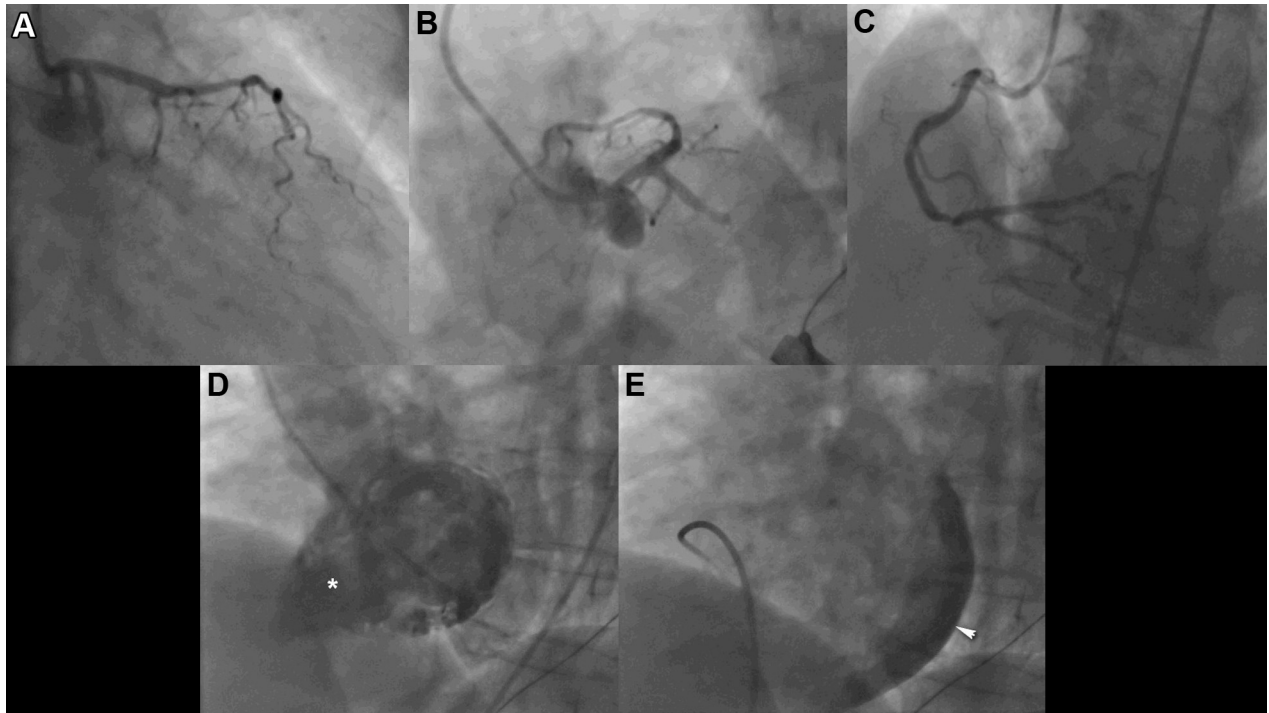
We assume that the septal rupture justifies the absence of RV collapse on the echocardiography, as there was an increase in the RV pressure. An emergency surgery (coronary artery bypass grafting, septal and free wall repair) was performed, but unfortunately the patient passed away during surgery.

The occurrence of mechanical complications has been reduced in contemporary practice, but they do still occur (1). Double ventricular ruptures, defined as the combination of 2 forms of rupture (ventricular free wall rupture, ventricular septal rupture, and papillary muscle rupture) are very rare, with exceedingly high mortality even when intervened emergently.

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Manuscript received January 22, 2019; revised manuscript received March 5, 2019, accepted March 12, 2019.

FIGURE 1 Coronary Angiography and Ventriculography

Coronary angiogram demonstrating total occlusion of left circumflex artery in (A) right anterior oblique caudal view; (B) spider view, and (C) moderate disease of right coronary artery proximal and distal segments; ventriculography showing (D) septal rupture; the asterisk marking the right ventricle and (E) right ventricle wall rupture, the arrowhead marking contrast in the pericardium.

REFERENCE

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KEY WORDS acute myocardial infarction, mechanical complication, ventricular rupture