A 50-year-old woman presented to the intensive care unit with a subacute inferior ST-segment elevation myocardial infarction. Her last chest pain was 2 days before. At the time of admission, she was in no distress, and was hemodynamically stable. Inferior ST-segment elevations and Q waves were documented on the initial ECG (Figure 1). Laboratory data showed signs of a subacute myocardial infarction as well as acute renal failure. On echocardiography, a small inferior wall motion abnormality could be seen with little pericardial effusion, which was not clearly suggestive of a hemorrhagic effusion (Movie I in the online-only Data Supplement). Initial computed tomography (Figure 2A) of the chest confirmed a circumferential pericardial effusion of 1.5-cm thickness and between \( \approx 10 \) and 17 Hounsfield units, consistent with a serous effusion. Thus, pericardial effusion was interpreted as Dressler’s syndrome.

On the next day, acute dyspnea and cardiac shock developed, and the patient was intubated and put on vasopressors. The ECG and pericardial effusion on echocardiography were unchanged. A second contrast-enhanced computed tomographic scan of the chest was performed, and revealed a large hypodense nonenhancing myocardial infarction of the left ventricular posterior wall and a hypodense nonenhancing papillary muscle (Figure 2B). The multislice computed tomographic scan clearly depicted a transmural fissural rupture (type I) of the inferior left ventricular wall within the area of infarction and spilling of contrast medium into the pericardium (Figure 2B through 2D). The pericardial effusion was progressive in volume and showed mixed density values.

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with denser areas (36 to 40 Hounsfield units) consistent with a hemorrhagic effusion and areas of lower density (18 to 20 Hounsfield units) matching coagulated blood. Rupture of the inferior left ventricle could be confirmed on a ventriculogram (Figure 3 and Movies II and III in the online-only Data Supplement). The myocardial infarction was due to closure of the circumflex artery. The patient underwent surgery immediately. Hemorrhagic effusion due to rupture of the lateral wall was confirmed and surgically corrected. However, the patient died 3 days later in cardiogenic shock.

Myocardial rupture is the most severe complication of acute coronary syndrome, with high mortality. According to a recent report of the Global Registry of Acute Coronary Events, the frequency of myocardial rupture is 0.45% of all myocardial infarctions.1,2

Disclosures

None.

References

The Broken Heart
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