Ventricular septal defect

An 89-year-old female with a history of hypertension and hyperlipidemia presented with severe left side chest pain radiating to left arm and dyspnea. Initial episode of chest pain was 1-day ago. Her heart rate was 81 beats per minute and blood pressure was 112/75 mm Hg. Electrocardiogram showed a normal sinus rhythm with Q-wave anterolateral myocardial infarction (Figure 1a). Coronary angiography revealed a left anterior descending artery with 100% occlusion. Percutaneous coronary intervention was performed and TIMI 2 (thrombolysis in myocardial infarction) flow was achieved in left anterior descending artery. Troponin-I on presentation was 11 ng/ml and peaked to 78 ng/ml (normal, <0.03 ng/ml). Echocardiography revealed a left ventricular ejection fraction of 20% with extensive anterior segments akinesis. Her hospital course on day 2 was complicated by multiple episodes of bradycardia and a sinus pause for 5 s requiring temporary pacemaker. On day 4, she developed a new holosystolic murmur at left sternal border on auscultation. Echocardiography revealed a large, post-infarct ventricular septal defect at the mid inferior septum to apical septum with significant left to right shunt (Figure 1b). She refused surgery and was treated conservatively. She expired on day 5 from cardiogenic shock.

Ventricular septal defect is a rare life threatening mechanical complication post-acute myocardial infarction accounting about 0.2% of cases. Risk factors include elderly population, female sex, anterior wall myocardial infarction, absence of...
previous myocardial infarction, angina pectoris and pulmonary hypertension.\(^2\)\(^3\) Mortality rate of ventricular septal defect with conservative management alone is approximately 90%, while with surgical intervention it varies from 19 to 60\(^\%\).\(^1\) European Society of Cardiology states that urgent surgical repair yields better outcomes in patients with large post-infarction ventricular septal defect and cardiogenic shock.\(^3\)

Photographs and text from: S.S. Gupta and A. Sinha, Department of Medicine and Cardiology, Maimonides Medical Center, Brooklyn, NY, USA; R. Sarasam, Department of Medicine, Baystate Medical Center, Springfield, MA, USA; V. Namana, Department of Medicine and Cardiology, Maimonides Medical Center, Brooklyn, NY, USA.

email: vnamana@maimonidesmed.org

Conflict of interest: None declared.

References