

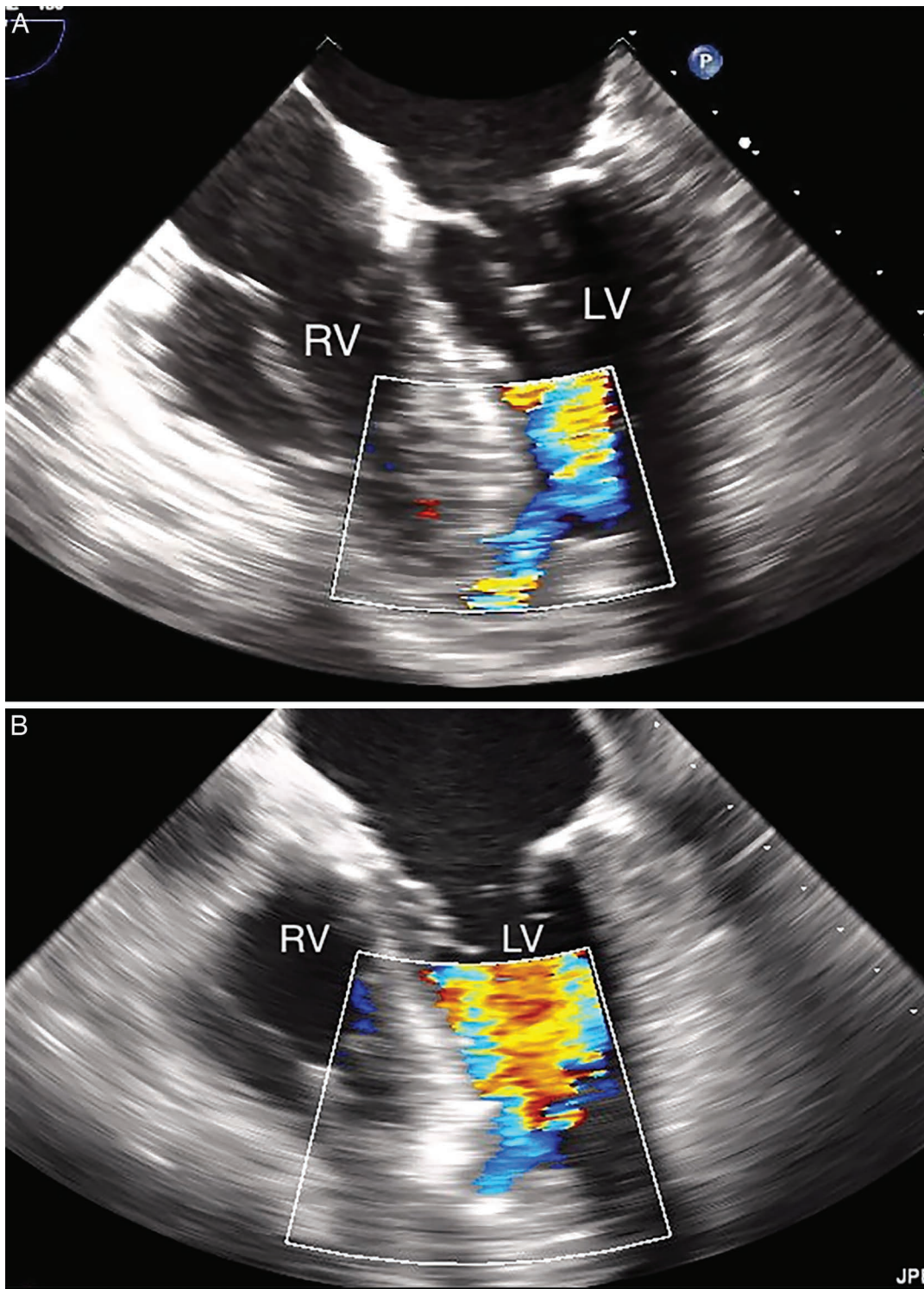
## TRANSCATHETER CLOSURE AND REINTERVENTION ON AN EXPANDING POST-MYOCARDIAL INFARCTION VENTRICULAR SEPTAL RUPTURE

Eric J. Bansal, M.D.; Joshua L. McKay, M.D.; C. Huie Lin, M.D., Ph.D.

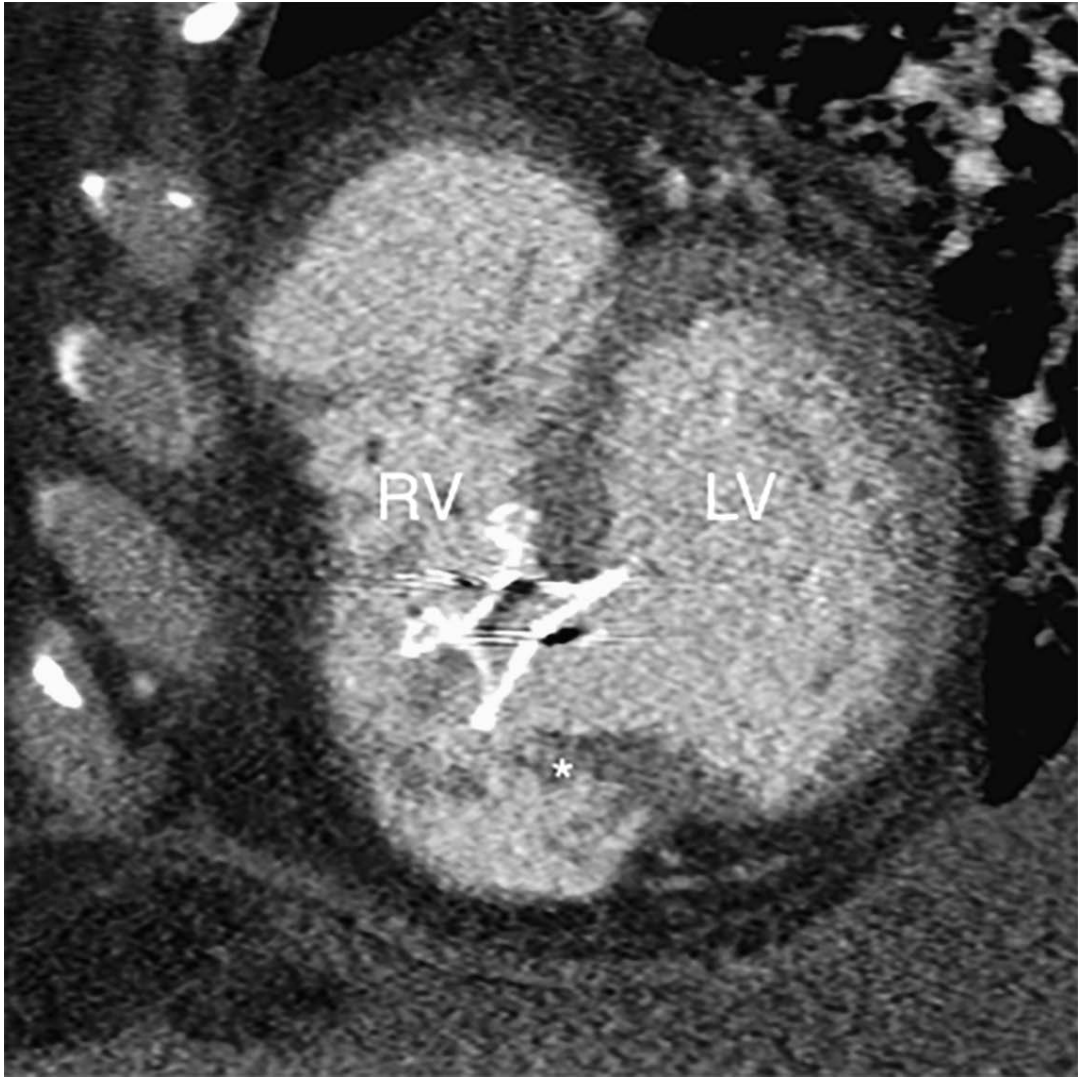
*Houston Methodist DeBakey Heart & Vascular Center, Houston Methodist Hospital, Houston, Texas*

A 74-year-old woman presented with an ST-elevation myocardial infarction (MI) and subsequently developed a post-MI apical ventricular septal rupture (VSR). Transesophageal echocardiogram (TEE) showed the defect to be 15 mm wide (Figure 1A). Due to hemodynamic instability, she underwent percutaneous closure of the VSR 5 days post-MI with an 18-mm AMPLATZER™ Muscular Ventricular Septal Defect (VSD) Occluder (St. Jude Medical, St. Paul, Minnesota) with no immediate evidence of residual shunt on TEE imaging (Figure 1B). Fourteen days after intervention, 64-slice cardiac computed tomography revealed that the inferior portion of the septum had torn away from the device due to ongoing tissue necrosis

with evidence of left-to-right shunt through a recurrent VSR (Figure 2). Repeat percutaneous intervention was undertaken, and a 24-mm AMPLATZER Atrial Septal Defect Occluder (St. Jude Medical, St. Paul, Minnesota) was placed. Cine imaging (Figure 3) shows the AMPLATZER Atrial Septal Defect Occluder (labeled ASD) across the ventricular septum and adjacent to the originally placed AMPLATZER Muscular VSD Occluder (labeled mVSD). Final transthoracic echocardiography showed no significant residual shunt (Figure 4). LV: left ventricle; RV: right ventricle; ASD: AMPLATZER Atrial Septal Defect Occluder; mVSD: AMPLATZER Muscular Ventricular Septal Defect Occluder.

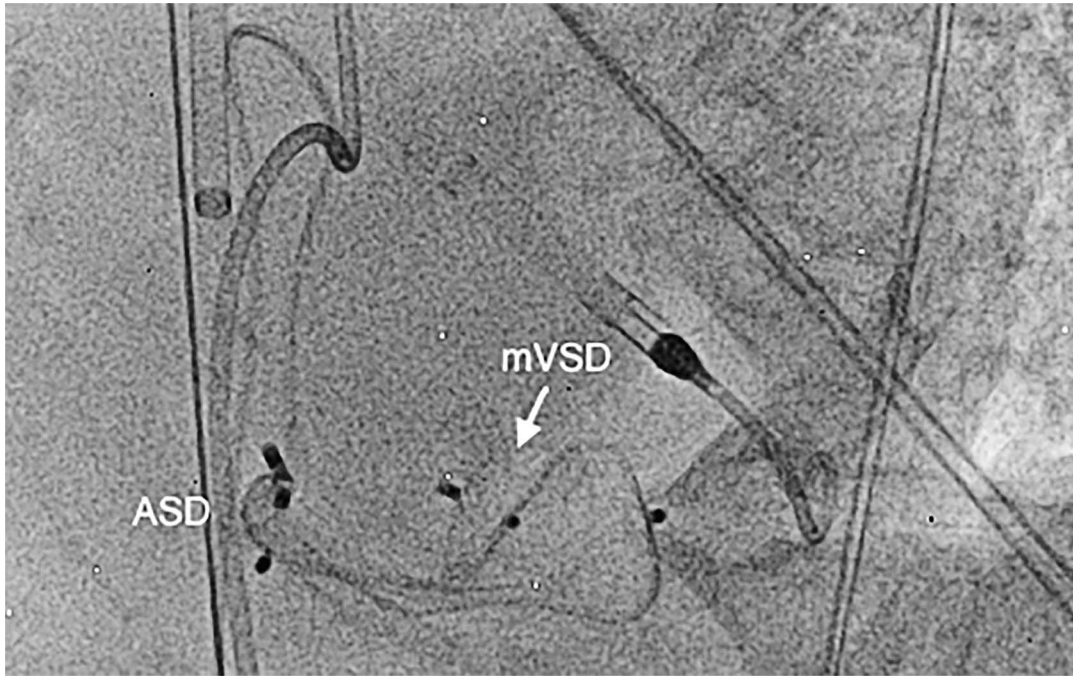


**Figure 1.** (A) Pre-procedure transesophageal color Doppler flow showing left-to-right shunting through a post-myocardial infarction ventricular septal rupture. (B) No residual shunt is seen immediately after deployment of an Amplatzer muscular ventricular septal defect occluder. LV, left ventricle, RV, right ventricle.

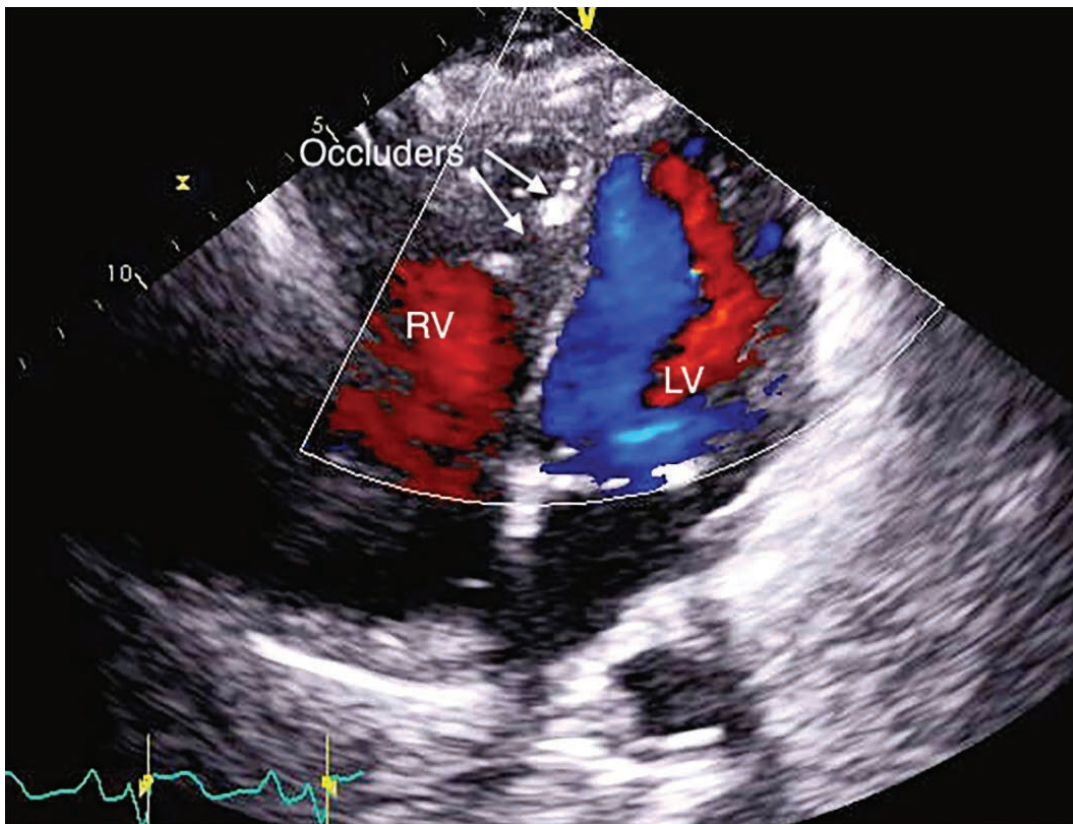


**Figure 2.** Residual shunting is seen by cardiac computed tomography. The Amplatzer muscular ventricular septal defect occluder is surrounded by necrotic myocardium with residual left-to-right shunting. \*, necrotic myocardium LV, left ventricle, RV, right ventricle.





**Figure 3.** Cine imaging showing successful deployment of the Amplatzer atrial septal defect occluder adjacent to the Amplatzer muscular ventricular septal defect occluder. ASD, atrial septal defect occluder, mVSD, muscular ventricular septal defect occluder.



**Figure 4.** Transthoracic color Doppler flow showing both devices across the septum with no significant residual shunt. LV, left ventricle, RV, right ventricle.