

## A case of acute myocardial infarction with audible systolic murmur

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**Background:** It is important to detect mechanical complications in acute myocardial infarction (AMI), and take appropriate action. A systolic heart murmur is suggestive of pulmonary congestion or Rales, acute mitral regurgitation (MR) and infarct ventricular septal rupture (VSR) should be suspected, the diagnosis of VSR in patients with AMI is very important for the patient's prognosis. The contemporary management of VSR included the availability of mechanical support and the timing of repair is very critical.

**Case:** The patient came to the emergency room with chest pain lasting several hours. Diagnosed as ST-segment elevation AMI on electrocardiogram. During the physical examination, a systolic murmur was diagnosed as an Infarct-VSR by auscultation in the parasternal area and observing shunt flow in the interventricular septum on echocardiography. Emergency coronary angiography was performed, culprit lesion was observed in left anterior descending artery (LAD). The stent insertion was performed successfully and insertion of an intra-aortic balloon pump (IABP) was done. Despite the presence of IABP, progressive dyspnea with pulmonary edema developed on the next day, and the inotropic agent requirement increased, so the IABP was replaced with extracorporeal membrane oxygenation (ECMO) on the 2nd day for the hemodynamic support. VSD patch closure surgery was performed on the 9th day. After ECMO weaning on the 17th day and ventilator weaning on the 18th day, he was transferred to a general ward on the 22nd day. Since then, his condition has improved and he is being followed up on an outpatient basis after discharge.

**Conclusion:** A patient with acute myocardial infarction was diagnosed with VSR through auscultation and early echocardiographic assessment. Post-infarction VSR is rare but had a poor prognosis. This case gave us a lesson that we could not emphasize the “index of suspicion and auscultation” too much for the diagnosis of VSR.

