10027

Acute inferior myocardial infarction complicated with right ventricular infarction and ventricular septal perforation

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An 86-year-old man was admitted to our hospital complaining of chest pain of 13 h duration. The 12-lead electrocardiogram (ECG) showed 1st degree atrioventricular block, ST elevation and abnormal Q wave in leads II, III, aVF and increased R wave in lead V2, consistent with an acute infero-posterior myocardial infarction (MI). Right precordial lead ECG showed ST elevation in leads V3R-V6R. A transthoracic echocardiogram (TTE) showed a severely hypokinetic infero-posterior left ventricular (LV) wall and right ventricular wall and a 56% of LV ejection fraction. Emergency coronary angiography (CAG) revealed a total occlusion of a mid (segment 2) right coronary artery. Aspiration thrombectomy followed by stent implantation (Resolute Integrity 3.5/30mm) resulted in grade 3 TIMI flow in final CAG. On the 4th day after admission, newly developed systolic murmur was audible and the patient became hemodynamically unstable. TTE demonstrated ventricular septal perforation (VSP) in the basal posterior septal wall. He was transferred to another hospital for surgical treatment. Although the incidence of inferior MI with VSP is generally lower than that of anterior MI, it frequently complicates an extensive right ventricular infarction and therefore, leads to poor prognosis. In this case, the possible main cause of VSP after MI was that the segment 2 lesion was totally occluded with poor collateral arteries, and that it took a long time from the onset to myocardial reperfusion.