A Case of LV Pseudoaneurysm after Successful Reperfusion of ST-segment Myocardial Infarction

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The mortality rate of myocardial infarction has decreased with the development of reperfusion techniques, but mechanical complications' mortality has not been significantly impacted. A 87 years old male with history of colon cancer and hypertension was admitted for left chest pain for 5 days. Electrocardiogram (ECG) showed pathologic Q waves on V1~V4, ST-segment elevations on V2~V5 and reciprocal ST-segment depressions (Fig 1.). Cardiac enzymes were markedly increased. Coronary angiography (CAG) confirmed that the patient had 3-vessel disease, and the culprit artery of left anterior descending artery (LAD) showed thrombotic total occlusion. The patient was diagnosed with a STEMI (ST-segment elevation myocardial infarction) that had occurred a few days ago. Primary percutaneous coronary intervention (PCI) for LAD was successfully performed. Echocardiography showed depressed left ventricular (LV) systolic function, and cardiac magnetic resonance imaging suggested transmural late gadolinium enhancement and microvascular obstruction on left ventricular wall (Fig 2.). Post-PCI ECG showed persistent pathologic Q-waves and ST-elevation (Fig 3.). The patient complained of general weakness and decreased, but persistent chest discomfort. After 2 months, patient was admitted for dyspnea and stuporous mentality. ECG still showed sustained ST-elevations and pathologic Q waves. Enhance Chest computed tomography (Fig 4.) and doppler echocardiography (Fig 5.) showed aggravated depressed LV systolic function with pseudoaneurysm with thrombus. Communication between pseudoaneurysm and LV was confirmed by contrast echocardiography (Figure 6). Emergency surgical repair was recommended; however, the caregivers refused the procedure, leading to death four days later. Majority of mechanical complication of STEMI occur within 3~5 days and must be monitored. Moreover, complications such as LV pseudoaneurysm may occur even after several months, and must be ruled out if clinical course is suboptimal despite successful intervention.


Fig 1.

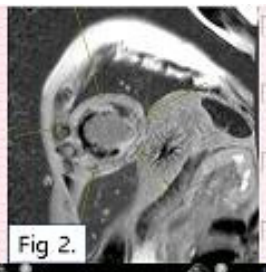
Fig 2.


Fig 3.


Fig 4.

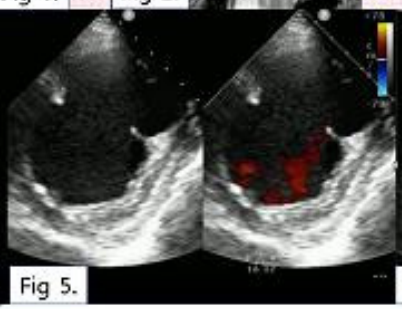
Fig 5.

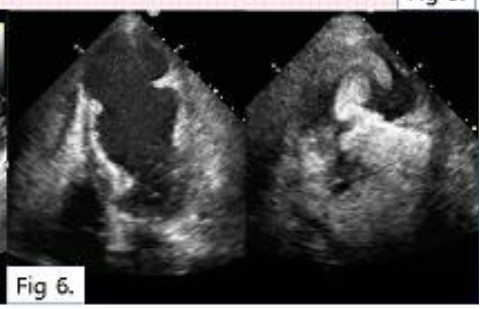
Fig 6.