

PHOTO QUIZ

What Is Your Diagnosis?

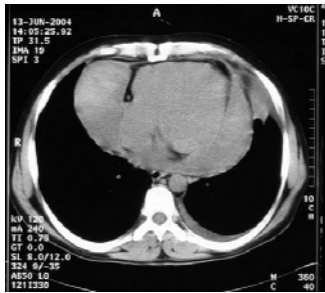


Figure 1: Plain cardiac CT

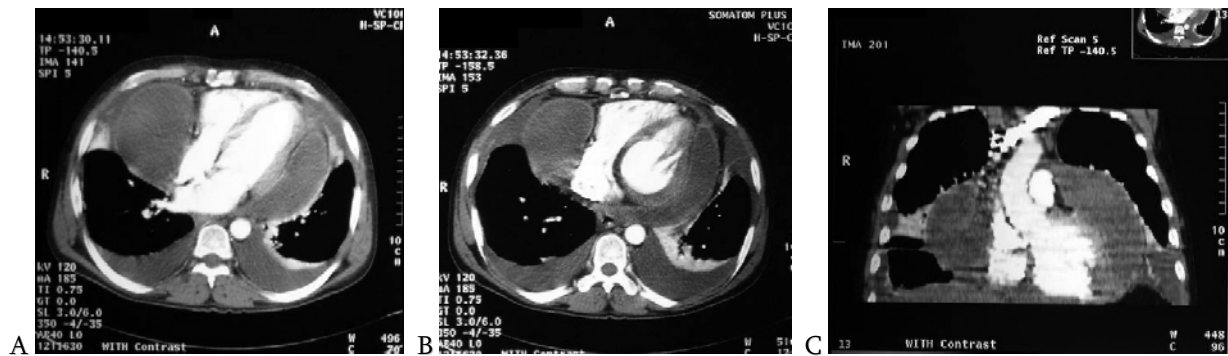


Figure 2: A,B Cardiac CT angiography ,with coronal reconstruction (C)

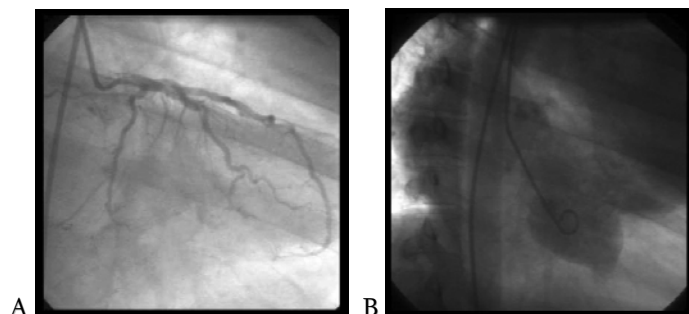


Figure 3: A, left coronary angiography B, left ventriculography

A 41-year-old , smoker man was admitted in our hospital for management of heart failure and localized pericardial effusion .The patient had history of post MI cardiac arrest which was managed by successful resuscitation in a general hospital two weeks before his recent admission. The post MI echocardiography, taken in that general hospital revealed localized pericardial effusion (postero lateral to the left ventricle) and a low ejection fraction. On his first day of admission in our hospital, plain CT revealed localized pericardial effusion. (Figure 1) Due to his poor general condition surgery was postponed.

Two weeks later patient's dyspnea was aggravated and primary symptoms of tamponade were revealed. CT angiography of the heart was performed. (Figure 2 A-C)

Then urgent cardiac catheterization (Figure 3 A-B) and surgery were scheduled for the patient .The diagnosis was confirmed during surgery.

What is your diagnosis?

Diagnosis: Sealed Ventricular Free Wall Rupture

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Figure 1: Plain thoracic CT scan at the level of cardiac chambers reveals significant localized pericardial effusion and a thin film of pleural effusion on the left side.

Figure 2:

A: CT angiography of thorax. There is significant pericardial effusion with squeezing of cardiac chambers. The pleural effusion has increased compared to the previous CT.

B: Tearing orifice at the inferior surface of the left ventricle.

C: Reconstructed coronal CT demonstrates sealed cardiac rupture at the inferior surface of the left ventricle.

Figure 3:

A: Normal angiography of coronary arteries, outlines the borders of myocardium.

B: Left ventriculogram. The tip of catheter is at the orifice of sealed rupture. The left ventricular cavity is located superolaterally

Ventricular rupture is usually a sudden, lethal complication of acute MI.¹ The patient may have chest pain after recovering from MI or develop symptoms

of cardiovascular collapse, tamponade or electromechanical dissociation.²

Cardiac rupture usually occurs during the convalescence phase of MI.

Sealed rupture usually has a large ostium contrary to the false aneurysm.³ But at pathological study there is no evidence of myocardium surrounding it which differentiates it from a true aneurysm.⁴ The sealed rupture may contain thrombi. Loculation of the pericardial effusion is due to repeated episodes of bleeding and clot formation.

References:

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2. Mc Mullan MH, Kilgore TL, Dear HD, Jr, et al. Sudden blowout rupture of the myocardium after infarction: Urgent management. Report of four cases. *J Thorac Cardiorasc Surg* 1985; 89: 959-63.
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