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| Case | (590) Post myocardial infarct left ventricular free wall rupture detect by ct. |
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CASE PRESENTATION

A 56-year-old male with no history of interest was brought to emergency department in a state of hemodynamic collapse. The electrocardiogram (ECG) showed low-voltage QRS. Limited Vscan echocardiography revealed a moderate pericardial effusion and manifestations of cardiac tamponade.

An ECG-gated angio CT was performed to exclude acute aortic dissection (AAD): - there was no AAD.

- Moderate hyperdense pericardial effusion confirmed hemopericardium.
- The drainage catheter was misplaced at the infradiaphragmatic level, not in the pericardial sac.
- Additional portal phase images demonstrated an unexpected finding of an extensive transmural hypodensity at the posterolateral wall of the left ventricle and papillary muscle confirming an acute myocardial infarction (AMI).

There was no active bleeding within the pericardial sac.

The patient was immediately taken to the operating room with high suspicion of left ventricular free wall rupture (LVFWR) and was found to have a large hemopericardium arising from a gap of 1 cm from the LVFW. Unfortunately the patient died.

DISCUSSION

We report a case of LVFWR detect incidentally by CT performed to rule out an AAD.

LVFWR, although not frequently, is a life-threatening AMI complication, due to fast progression of tamponade and cardiogenic shock.

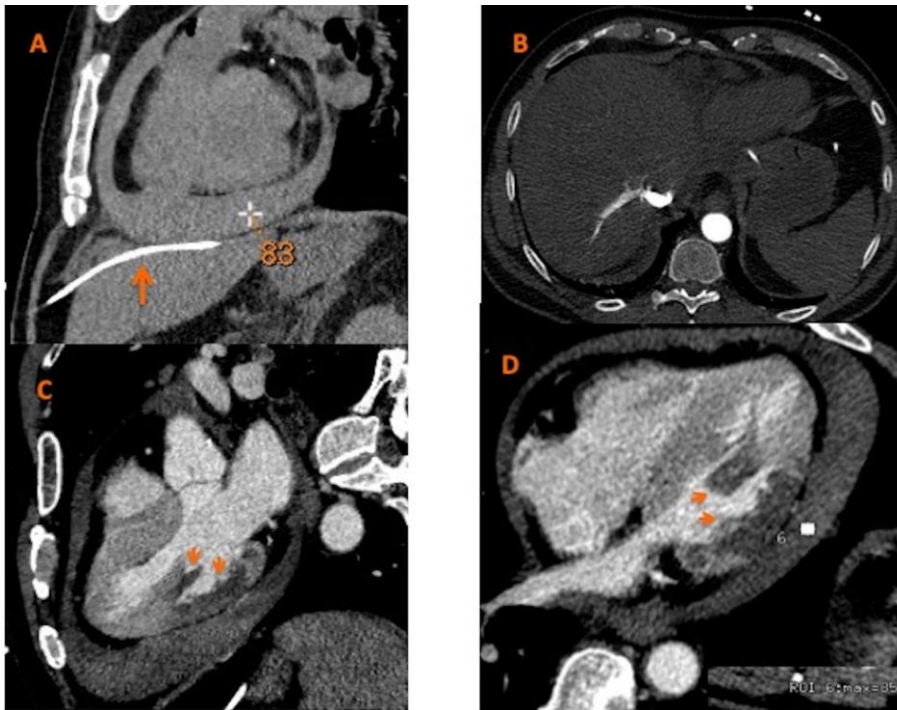
Most of LVFWR are acute and generally manifests as sudden out-of-hospital death. In 1/3 of cases LVFWR have a subacute course with a hematoma at the epicardial surface that decreases the rate of development of hemopericardium. This provides a time window of opportunity for diagnosis and management.

The competing diagnosis to LVFWR is AAD, since both are causes of lethal hemopericardium, and can present with same symptoms. Echocardiography is the first method to evaluate an acute pericardial effusion, however CT is the best tool to differentiate LVFWR and AAD, since it has a high sensitivity and specificity to rule out AAD; it is widely available with fast execution and interpretation.

The diagnosis of LVFWR is straightforward when CT demonstrates extravasation of contrast material along the ventricular wall to the pericardial space. If not, it is important to look for indirect findings, such as a clinically overlooked myocardial infarction manifested as transmural hypodensity, as in this case, that pericardial hematoma blocked the spillage of contrast medium.

CONCLUSION

LVFWR should be suspected in patients with acute hemopericardium. Angio CT is an important tool confirming the diagnose and excluding other causes of hemopericardium, specially if AMI is clinically overlooked.



Non-enhanced CT: (A) hemopericardium with 83UH. The drainage catheter was misplaced at the infradiaphragmatic level (arrow), not in the pericardial sac. (B) Angio-CT- arterial phase: - no evidence for AAD.- Signs of tamponade: reflux contrast into supra-hepatic and IVC , that is larger than aorta. (C - D) Axial and 3 chambers views portal phase images: transmural hypodensity at the posterolateral wall of the left ventricle and papillary muscle confirming an acute myocardial infarction (AMI) (arrowhead). No active bleeding within the pericardial sac. Note the density is the same (85UH) after contrast.

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