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ABSTRACT

Myocardial rupture is a rare but critical complication of acute myocardial infarction (MI), particularly when involving the inferior wall. Early identification through echocardiography, CT angiography, or MRI is essential, with immediate surgical intervention being crucial for survival.

We present a 74-year-old male with hypertension, diabetes, and smoking history who presented to the emergency department with syncope and retro-scapular pain. Diagnostic imaging revealed pericardial effusion and myocardial rupture of the left ventricle's inferior wall. Following urgent cardiac surgery with myocardial wall repair, the patient was discharged after 17 days. This case highlights the importance of awareness and prompt recognition of this life-threatening complication among emergency physicians.

CASE REPORT

A **74-year-old male** with hypertension, diabetes, and smoking history presented to the ED following syncope preceded by 4 days of retro-scapular pain. Despite mild tachypnea, vital signs were stable.

Diagnostic Findings:

- *ECG*: Right bundle branch block, Q waves and ST-segment elevation in inferior leads
- *Troponin I*: Markedly elevated (12,213 ng/L)
- *Echocardiography*: Complete akinesis of left ventricle's inferior wall, pericardial effusion at right ventricular apex
- *CT angiography*: Significant pericardial effusion and contrast-filled structure along the left ventricle's inferior wall

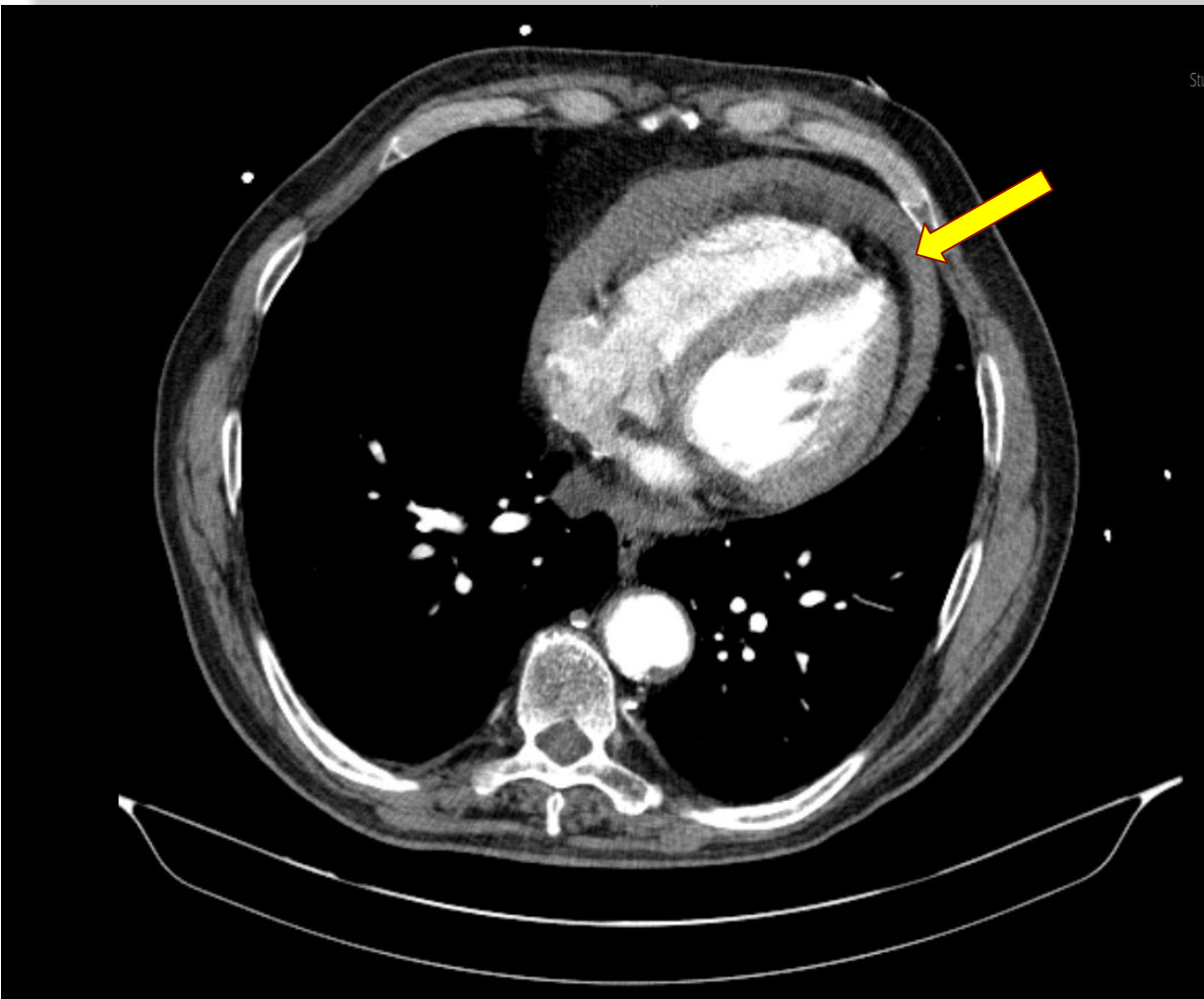
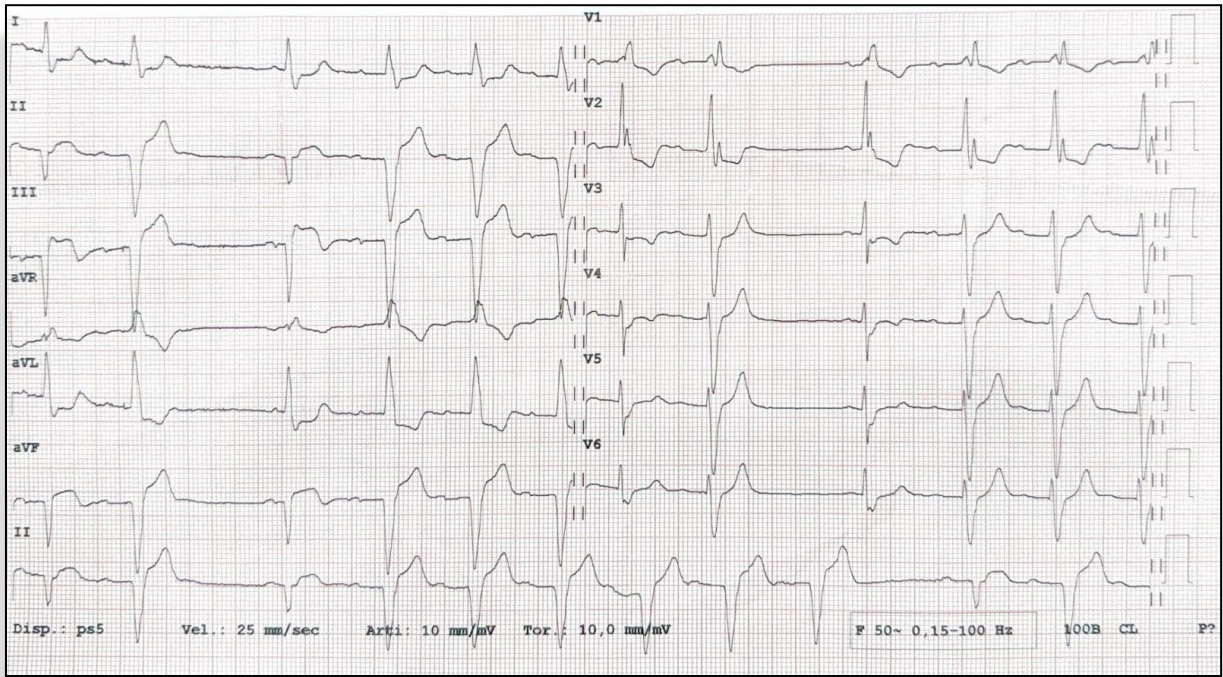
Diagnosis

Late-stage inferior myocardial infarction complicated by myocardial rupture.

Management

The patient was urgently transferred to cardiac surgery where an operative coronary angiography was performed to correct the RCA occlusion. This was followed by successful cardiac wall closure. Due to the presence of atrioventricular block, CRTP implantation became necessary during the procedure.

After a comprehensive rehabilitation period and careful monitoring, the patient showed significant improvement and was discharged after 17 days of hospitalization.



DISCUSSION



Clinical Considerations

Diagnosing myocardial rupture presents challenges due to nonspecific presentation overlapping with other critical conditions.

Key considerations:

- ❑ When to suspect: Sudden severe chest pain, hypotension, and pericardial tamponade signs shortly after MI
- ❑ Diagnostic approach: Echocardiography (TTE/TEE) is the gold standard
- ❑ Alternative imaging: Cardiac CT angiography provides detailed structural assessment
- ❑ MRI role: Highly sensitive but limited in emergency settings; useful for post-acute evaluation.

CONCLUSIONS

Myocardial rupture is a rare but highly fatal complication, especially in extensive transmural infarctions. Echocardiography is the diagnostic gold standard and can be performed immediately upon ED arrival. Prompt consultation with cardiology and cardiac surgery specialists is essential for optimal patient outcomes.

Affiliazioni

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