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## IMAGE

## Chest pain, ST-segment elevation in aVR lead, and high troponin levels

Douleur thoracique, sus-décalage du segment ST en aVR et augmentation des taux de troponine

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### KEYWORDS

ST segment elevation;  
 aVR lead;  
 Acute myocardial infarction;  
 Paroxysmal atrioventricular junctional tachycardia;  
 Pulmonary embolism

### MOTS CLÉS

Sus-décalage du segment ST ;  
 Dérivation aVR ;  
 Infarctus aigu du myocarde ;  
 Tachycardie jonctionnelle ;  
 Embolie pulmonaire

Recently, three patients with persistent chest pain, dyspnoea, ST-segment elevation in the aVR lead (Fig. 1A1, Fig. 2B1, Fig. 3C1), and high levels of troponin were referred to our catheterization laboratory for urgent coronary angiography. Patient A was a 53-year-old woman with no risk factors for atherosclerosis; patient B was a 25-year-old man with a history of untreated atrial fibrillation and no risk factors for atherosclerosis; and patient C was a 51-year-old woman with systemic hypertension and a history of ischaemic stroke.

Emergency coronary angiography revealed thrombotic ostial stenosis of the left main coronary artery in patient A (Fig. 1A2, arrow), which was treated with primary stenting. No significant coronary artery disease was identified in the other two patients.

All patients underwent transthoracic echocardiography after coronary angiography. Echocardiography showed:

- reduced left ventricular ejection fraction (42%) as a consequence of anterior and lateral left ventricular wall hypocontractility in patient A;
- preserved left ventricular ejection fraction (64%) and absence of regional wall motion abnormality in patient B;
- preserved left ventricular function, dilatation of the right ventricle shifting the interventricular septum towards the left ventricle, and pulmonary hypertension (systolic pulmonary pressure 65 mmHg) in patient C.

Two hours after admission patient B had a recurrence of the symptoms associated with a paroxysmal atrioventricular junctional tachycardia with ST-segment elevation in the aVR lead (Fig. 2B2).

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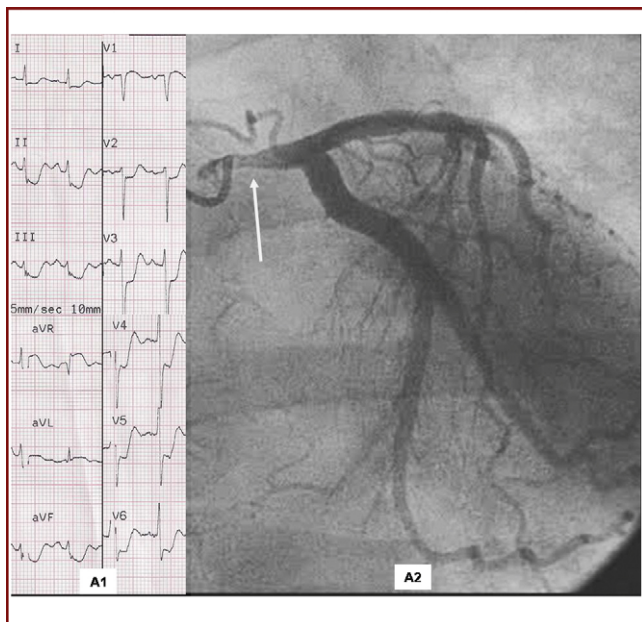


Figure 1. Patient A.

Chest computed tomography in patient C revealed bilateral proximal pulmonary embolism (Fig. 3C2, arrows).

ST-segment elevation in the aVR lead appears as a correlate of extensive myocardial compromise, which may be misleading if considered as a specific sign of acute coronary artery occlusion.

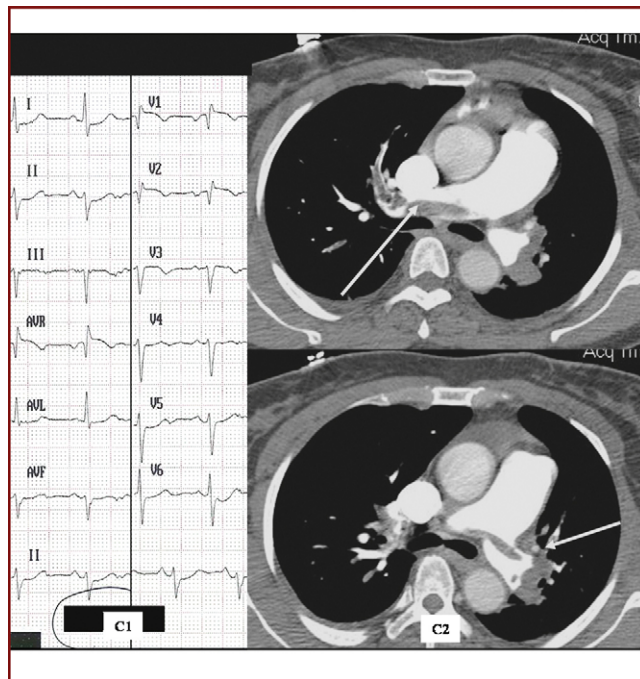


Figure 3. Patient C.

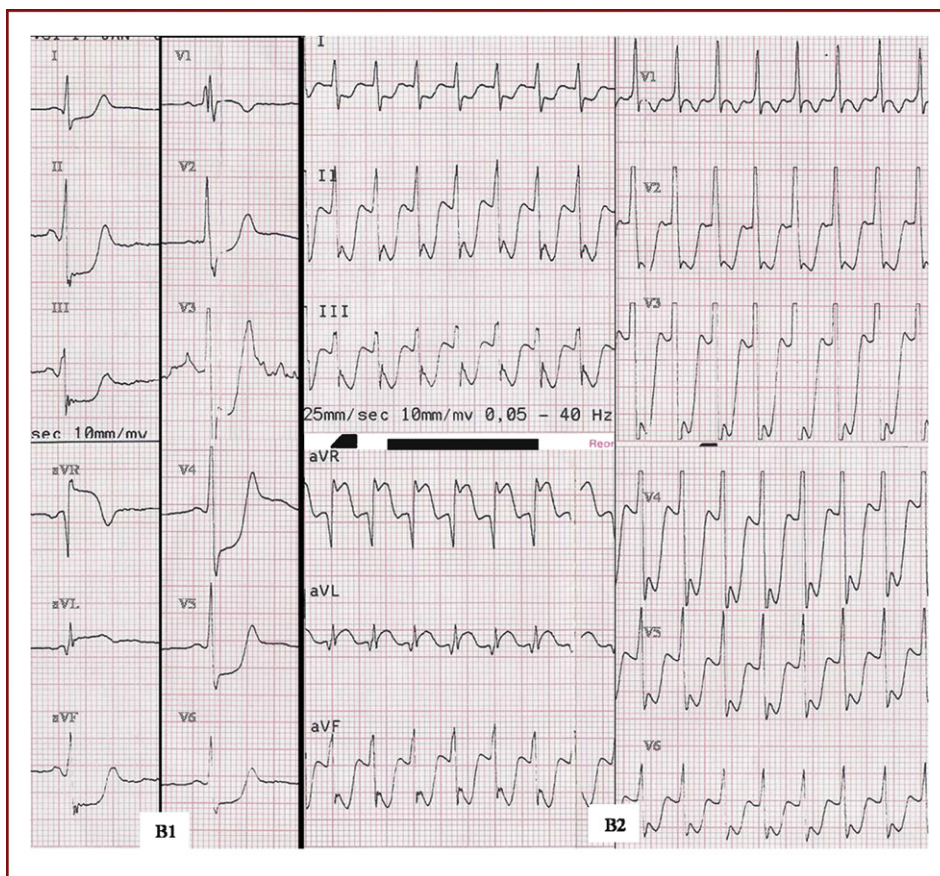


Figure 2. Patient B.