



Right ventricular myocardial infarction: The electrocardiography (ECG) pattern

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Images in Clinical Medicine

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A 57-year-old man presented to the emergency department with retrosternal chest heaviness at rest for 4 hours, accompanied with weakness, sweating, and nausea. Patient's vital signs were stable.

In the electrocardiogram (ECG), upsloping ST-segment elevation in leads II, III, and aVF, and reciprocal downsloping ST-depression in leads I and aVL (Figure 1).

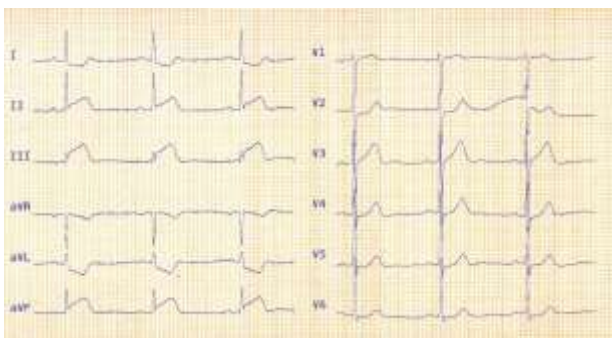


Figure 1. Upsloping ST-segment elevation in leads II, III, and aVF, and reciprocal downsloping ST-depression in leads I and aVL [inferior myocardial infarction (MI)]

Since the 30 to 50 percent of cases with inferior myocardial infarction (MI) associated with right ventricular MI (RVMI), right-sided leads V4R, V5R, and V6R obtained that showed

upsloping ST-segment elevation in leads V4R, V5R, and V6R (Figure 2). Initial troponin I and T was normal; but 6 hours later, measurement showed an increase to higher than the upper reference limit. Inferior MI associated with RVMI correlates closely with occlusion of proximal right coronary artery (RCA).¹

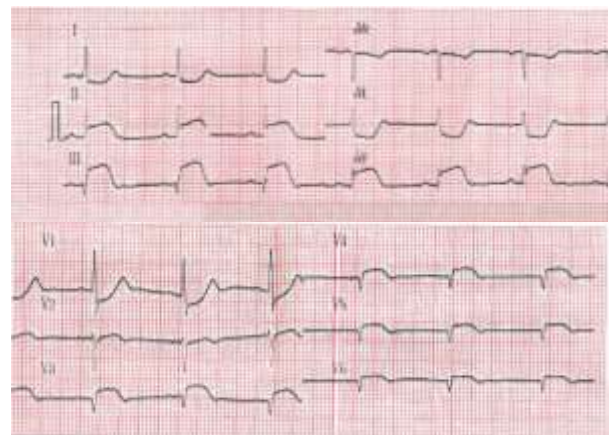


Figure 2. Upsloping ST-segment elevation in leads V4R, V5R, and V6R [right ventricular myocardial infarction (RVMI)]

Due to the ST-segment elevation more than 1 mm in three adjacent limb leads, patient underwent emergency coronary angiography, that 90% stenosis was observed in proximal of RCA. This stenosis treated successfully by primary percutaneous coronary intervention (PCI) with stent placement. Finally, the patient

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was discharged with guideline-directed medical therapy² after improving signs and symptoms and correcting ECG changes.

Conflict of Interests

Authors have no conflict of interests.

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