



Medical Imagery

STEMI Equivalent: ST Elevation in Lead aVR

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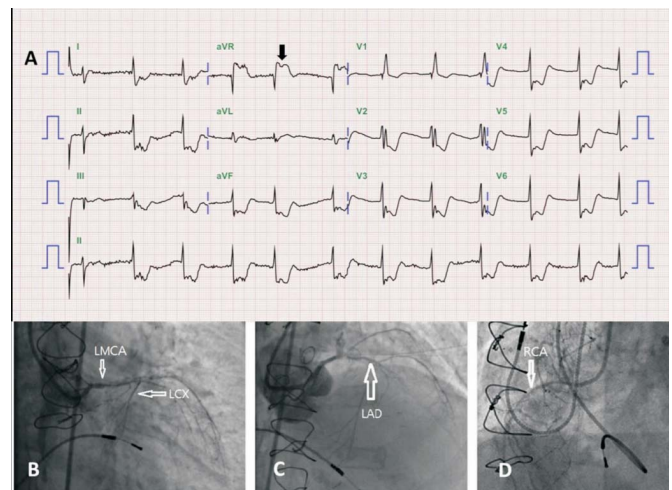
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A 79-year-old woman presented with chest tightness without radiation for a few minutes. The initial vital signs were body temperature of 36.4 °C, respiratory rate of 17 per minute, blood pressure of 142/60 mmHg and heart rate of 91 beats per minute. Laboratory data reported hs-Troponin I levels of 1334.2 pg/mL and a CK-MB of 10.0 ng/mL. ECG showed ST elevation in lead aVR with diffuse ST depression in other leads (Figure 1A, black arrow) indicating an ST-segment elevation myocardial infarction (STEMI)-equivalent. Therefore, antiplatelet and heparin were used. Coronary angiography showed severe stenosis of the left main coronary artery (LMCA), left anterior descending artery, left circumflex artery and right coronary artery, and patent graft vessels (Figure 1B–D). However, the coronary intervention of this subject failed and the family refused coronary bypass surgery. Finally, she expired due to cardiogenic shock.

ST-segment elevation > 1.0 mm in aVR with ST depression elsewhere is one kind of STEMI equivalent which is defined as an ECG pattern different from the typical ECG changes of STEMI, but these changes may signal a risk of acutely occluded coronary artery. This ECG pattern should be managed as STEMI.<sup>3</sup>



**Figure 1.** (A) The ECG showed ST elevation in lead aVR > 1 mm (black arrow) with diffuse ST depression in other leads, and the coronary angiography showed (B) 70% stenosis of left main coronary artery (LMCA) and 100% stenosis of left circumflex artery (LCX) (C) 100% stenosis of left anterior descending artery (LAD) and (D) 95% stenosis of right coronary artery (RCA).

References

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