



IMAGE IN CARDIOLOGY

Misleading ST-segment elevation myocardial infarction pattern in ketoacidosis



Padrão ilusório de STEMI na cetoacidose

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A 50-year-old man with long-standing type 1 diabetes was admitted directly to the cardiac catheterization laboratory with a preliminary diagnosis of ST-segment elevation myocardial infarction (STEMI). He presented with chest discomfort and vomiting. The initial ECG transmitted from an ambulance showed sinus tachycardia, prominent ST-segment elevation in V1–V3 and aVR and ST-segment depression in leads II, III, aVF and V5–V6 (Figure 1A).

Prompt coronary angiography documented normal coronary arteries. Echocardiography excluded left ventricular wall motion abnormalities.

Laboratory tests revealed hyperglycemia (80.2 mmol/l, 1444 mg/dl), metabolic acidosis (pH 7.18), hyperkalemia (6.2 mmol/l), hyponatremia (118 mmol/l),

ketonemia, non-significantly elevated high-sensitivity troponin (up to 210 pg/ml) and increased creatinine (272 μ mol/l, 3.08 mg/dl).

A diagnosis of diabetic ketoacidosis was ultimately made. The precipitating event was found to be excessive alcohol intake several days before. The ST-segment changes disappeared after normalization of water-electrolyte and acid-base imbalances (Figure 1B). The patient was discharged on the sixth day after full recovery.

Direct and immediate transport to the nearest catheterization laboratory when paramedics diagnose STEMI is beneficial for most patients, nevertheless it may pose a serious threat to patients with a pseudo-myocardial infarction ECG pattern.

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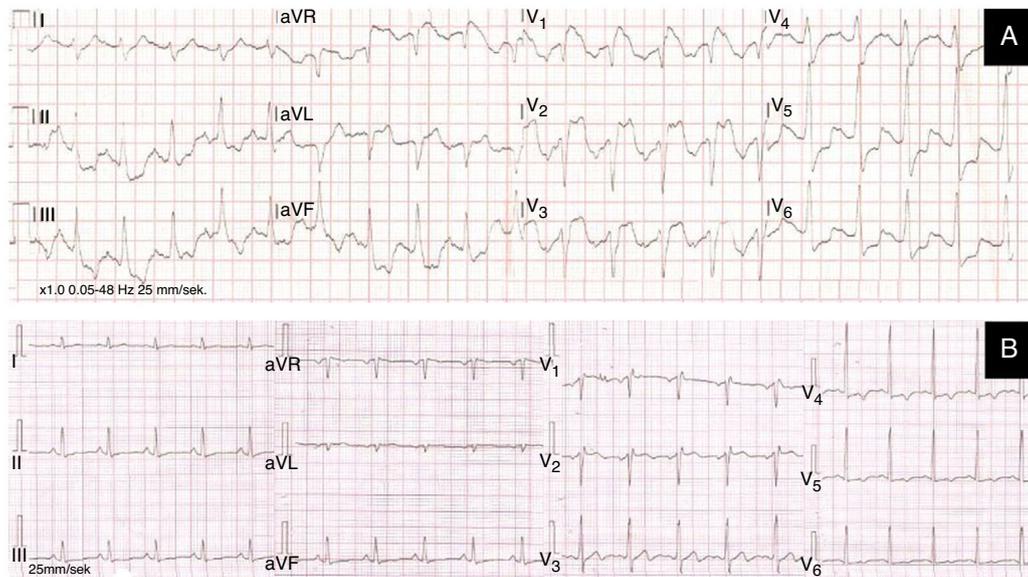


Figure 1 (A) The initial ECG from an ambulance transmitted to the cardiac catheterization laboratory via the LIFENET system showing ST-segment elevation myocardial infarction pattern; (B) ECG on day of discharge.

Ethical disclosures

Protection of human and animal subjects. The authors declare that no experiments were performed on humans or animals for this investigation.

Confidentiality of data. The authors declare that no patient data appear in this article.

Right to privacy and informed consent. The authors declare that no patient data appear in this article.

Conflicts of interest

The authors have no conflicts of interest to declare.