







Diagnostic problem in acute infarction and vasospastic angina pectoris

 Davor Horvat ^{*},
 Andrea Grman
Fanfani,
 Morana Kasunić
Jelić,
 Kamal Al Rajabi,
 Andrej Došen,
 Ronald Lipovščak,
 Dario Jelić,
 Lorena Kalčina
Uravić

Karlovac General Hospital,
Karlovac, Croatia

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***ADDRESS FOR CORRESPONDENCE:** Davor Horvat, Opća bolnica Karlovac, Andrije Štampara 3, HR-47000 Karlovac, Croatia. / Phone: +385-98-9629-570 / E-mail: davor.horvat@ka.t-com.hr

ORCID: Davor Horvat, <https://orcid.org/0000-0003-2360-5793> • Andrea Grman Fanfani, <https://orcid.org/0000-0002-6309-1793> • Morana Kasunić Jelić, <https://orcid.org/0000-0001-6178-0555> • Kamal Al Rajabi, <https://orcid.org/0000-0002-7676-6470> • Andrej Došen, <https://orcid.org/0000-0001-6052-2503> • Ronald Lipovščak, <https://orcid.org/0000-0001-6658-0931> • Dario Jelić, <https://orcid.org/0000-0002-4564-602X> • Lorena Kalčina Uravić, <https://orcid.org/0000-0002-5185-3981>

Case report: 79-year-old patient comes to the Emergency Department of Karlovac General Hospital, where he presented with chest pains immediately before arriving at the hospital. 12-lead electrocardiogram (ECG) shows inferior and anterolateral acute ST-elevation myocardial infarction (STEMI) (**Figure 1**). He was referred to the Percutaneous Coronary Intervention Network (Sestre Milosrdnice University Hospital Center, Zagreb) where, after emergency coronary angiography, all three epicardial coronary arteries were shown without hemodynamically significant stenoses, with screening at the LAD/D1 bifurcation, which would correspond to the site of a spontaneously reperfused thrombus. The following day, he was returned to the home institution. On ECG: sinus rhythm with ventricular rate 63/min, amputated R inferiorly, q from V1-6 (**Figure 2**). Echocardiography: akinesia of the distal

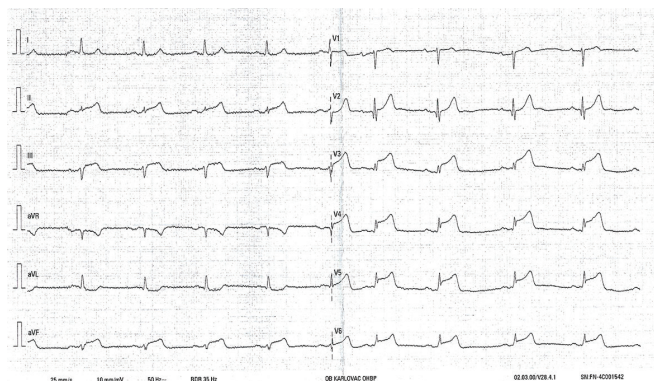


FIGURE 1. Electrocardiogram on arrival at the Emergency Department shows significant elevation of the ST-segment in the inferior and anterolateral leads.

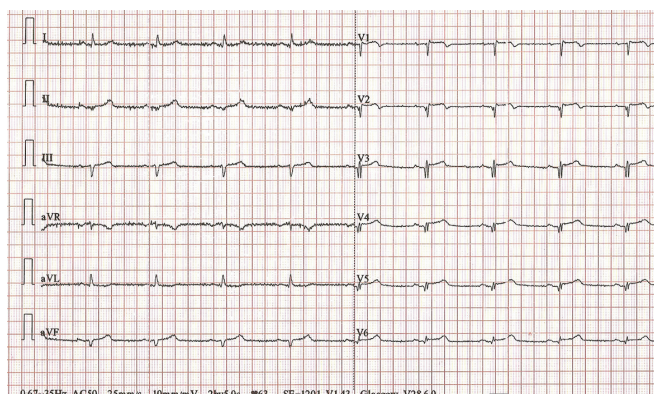


FIGURE 2. Electrocardiogram on the second day of hospital stay after coronary angiography and spontaneous reperfusion shows amputated R wave inferiorly and q wave in all precordial leads.

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2/3 septum, anterior wall and apex with consequent left ventricular ejection fraction 40%. During the stay, he is treated with low molecular weight heparin, antiplatelet, antihypertensive, and other symptomatic therapy. In the Holter ECG: transient ST elevation is verified in all three leads, which corresponds to the inferior and anterolateral region in the 12-channel ECG (**Figure 3**). This event was not accompanied by significant angina pains or an increase in troponin. ECG at discharge: sinus rhythm 52/min., anterior ischemia, and minor residual anterior ST elevation (**Figure 4**). Discharge diagnoses: Inferoposterior and anteroseptolateral STEMI, Spontaneous reperfusion, Unstable angina pectoris (vasospastic). Therapy at discharge: aspirin, clopidogrel, atorvastatin, trimetazidine, diltiazem, perindopril.

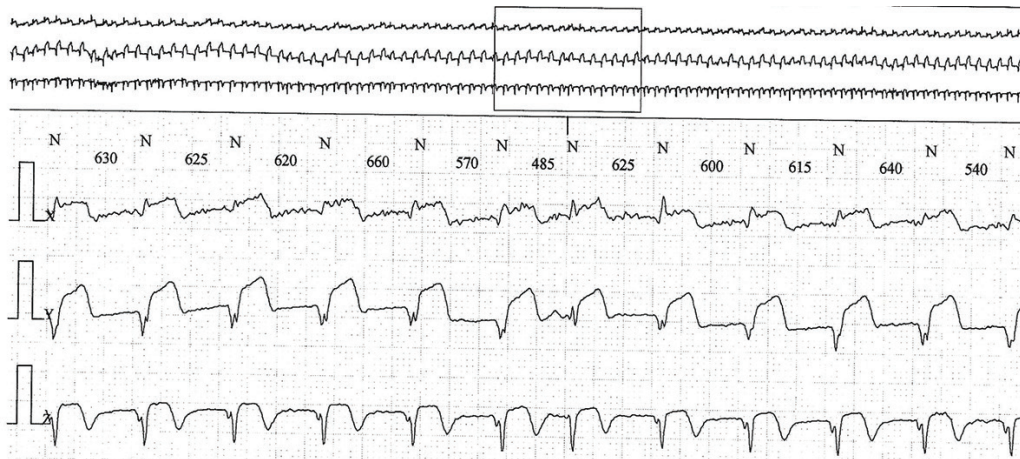


FIGURE 3. Electrocardiogram from a three-channel holter recording with significant elevation of the ST-segment in all three leads.

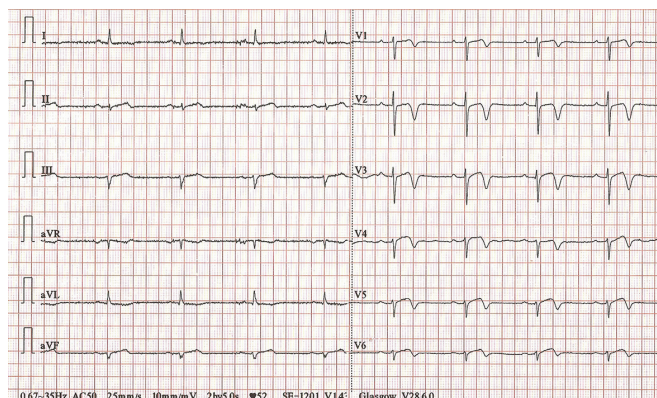


FIGURE 4. Electrocardiogram at discharge from the hospital shows a negative T wave and minor residual ST segment elevation in all precordial leads.

Conclusion: The occurrence of ST-segment elevation in ECG as part of an acute myocardial infarction is a common finding in STEMI and indicates the need for urgent access to the patient. The appearance of spontaneous reperfusion in the infarct is a welcome natural revascularization when the performance of the PCI procedure is mostly no longer necessary.¹⁻³ Although spontaneous reperfusion still indicates a thrombotic cause of infarction, transient ST-segment elevation in the ECG caused by vasospasm can rarely be seen at these moments. In order to ultimately reduce additional complications and mortality, a proper and timely approach to diagnosis and therapy in these patients is extremely important.

LITERATURE

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