Acute ST-segment elevation myocardial infarction (STEMI) is typically consequence of acute plaque rupture and consequent occlusion of coronary artery. In this paper, we presented three selected clinical cases with clinical and electrocardiographic signs primarily indicating to acute STEMI, in whom angiographic diagnosis pointed to a different etiology or explained unexpected clinical status of the patient.

The first case was a man who presented with acute chest pain and with typical EKG signs of acute inferior myocardial infarction. Coronary angiography diagnosed long subocclusion of proximal Cx. As the pain was intermittent in character, and lesion with smooth edges, before deciding on the continuation of the PCI procedure we performed a pharmacological intervention. Control angiography showed unexpected result.

The second case was a woman who presented with acute chest pain and typical EKG signs of acute inferior myocardial infarction. Coronary angiography diagnosed long subocclusion of proximal Cx. As the pain was intermittent in character, and lesion with smooth edges, before deciding on the continuation of the PCI procedure we performed a pharmacological intervention. Control angiography showed unexpected result.

The third case was a man who presented with sudden chest pain and with typical changes in the ECG in the form of an extended anterior STEMI. The pain was of moderate intensity and the patient hemodynamically was stable. Left coronary arteriogram showed occlusion of the left main, without displaying the LAD and Cx, and we expected a severe hemodynamic instability, but clinical state was remarkably stable. Angiogram of RCA showed unexpected findings.

**KEYWORDS:** ST-segment elevation myocardial infarction, coronary angiography, percutaneous coronary intervention