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Myocardial Perfusion Single Photon Emission-Computed Tomography (MPS) SPECT in Ischaemia detection in suspected Acute Coronary Syndromes (Case report)

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Introduction: The ischemic cascade as a result of myocardial oxygen supply–demand mismatch starts with metabolic alterations followed by changes of perfusion, diastolic dysfunction, regional systolic wall motion dysfunction, ischaemic ECG changes and finally angina. MPS can detect perfusion changes even in rest and detect ischemia. Case report: 61 years old woman with prolonged typical anginal pain at rest was admitted at our hospital. First symptoms occurred a month ago as stable angina CCS class II and rapidly progressed to III/IV class. Patient had visited hospital several times with normal ECG, high sensitive troponin tests in normal range, normal echocardiogram and negative exercise test. Because of hypertension and dyslipidemia antihypertensive (ACE inhibitor), statin (atorvastatin) and aspirin were prescribed. After admission the resting 12-lead ECG was performed with negative T waves in precordial leads V1-4. High sensitive troponin test was in normal range, transthoracic echocardiography was normal so the patient was referred to MPS. The ECG-gated MIBI Tc 99 m SPECT rest study with CT correction was performed. We detected severe hypoperfusion in apical segments of anterior, lateral, inferior wall and septum and in midventricular segment of inferior wall (30% of the LV myocardium) with mild hypokinesia and reduced wall thickening suggesting two vessel disease. Patient was referred to coronarography. 99% mLAD, 85% pLAD and 90% pRCA stenosis were found and PCI with implantation of Resolute ONYX stent to mLAD and Xience PROx stent to pLAD with TIMI flow 3 was performed. PCI to RCA was suggested in a month. Patient was discharged with optimal medical treatment. **Conclusion:** MPS rest study could be useful in patients with suggestive symptoms suspected for acute coronary syndromes for detecting ischemia, risk stratification and need of immediate reperfusion.

Keywords: MPS, ACS