

ANGIOGRAPHIC CORRECTED TIMI FRAME COUNT CAN PREDICT LEFT VENTRICULAR REMODELING AFTER ACUTE ANTERIOR MYOCARDIAL INFARCTION IN PATIENTS WITH TIMI 3 FLOW IMMEDIATELY AFTER PRIMARY PCI ON PROXIMAL LEFT ANTERIOR DESCENDING CORONARY ARTERY

Milan Pavlović^{1,2}, Danijela Djordjević¹, Svetlana Apostolović^{1,2}, Sonja Šalinger^{1,2},
Zoran Perišić^{1,2}, Miodrag Damjanović¹, Snežana Ćirić-Zdravković^{1,2},
Milan Živković¹, Tomica Kostić^{1,2}, Nenad Božinović¹

¹Clinic for Cardiovascular diseases, Clinical Center Niš, Serbia

²University of Niš, Faculty of Medicine, Niš, Serbia

Contact: Milan Pavlović
Blvd dr Zorn Djindjić 48, 18000 Niš, Serbia
E-mail: milanpa@eunet.rs

The aim of this study was to evaluate coronary flow in the LAD coronary artery immediately after primary PCI in patients with acute anterior myocardial infarction, using the quantitative Corrected TIMI Frame Count (CTFC) method, and to compare coronary flow velocity with ST segment elevation resolution of electrocardiogram, echocardiographic left ventricular function parameters, and clinical outcomes during hospitalisation and after 12 months. Ninety eight patients with successful mechanical myocardial reperfusion, who achieved TIMI 3 flow and who were not planned for further revascularisation, out of 156 consecutive patients with first anterior myocardial infarction, were included in this study. There were 44 patients in the group with faster TIMI 3 flow (CTFC ≤ 27), of whom 14 had PCI on the proximal segment LAD artery, 16 on medial and 14 on distal segment, and 54 patients in the group with slower TIMI 3 flow (CTFC 28-40) of whom 18 patients had intervention on proximal segment LAD artery, 22 on medial and 14 on distal segment.

The patients with primary PCI on proximal LAD segment with faster TIMI 3 flow achieved significantly more often complete ST segment elevation resolution at 90 minutes after PCI (50%), compared to those with slower TIMI 3 flow (17%, $p < 0.025$). The patients with PCI on proximal LAD artery segment who had faster TIMI 3 flow, showed after 12 months a significantly lower echocardiographic end-systolic volume index (ESVI) 31.3 ± 6.7 ml/m², compared to those with intervention on the proximal LAD coronary with slower TIMI 3 flow 37.2 ± 6.5 ml/m² ($p < 0.025$). Faster TIMI 3 flow in the infarction artery was accompanied with a more complete ST segment resolution in acute phase and lesser left ventricular remodeling after 12 months, only if the culprit lesion was localized in the proximal LAD artery segment.

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