

I. Cardiology Section

1. ASSESSMENT OF THE IMPACT OF LATE MYOCARDIAL REVASCULARIZATION IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION WITH ST-SEGMENT ELEVATION

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Introduction. Early reperfusion therapy is considered a percutaneous coronary intervention (PCI) performed within the first 12h from symptoms onset in acute myocardial infarction with ST segment elevation (STEMI). There is a tendency to extend the “therapeutic window” for STEMI stable patients: the European’s Society of Cardiology (ESC) guideline on myocardial revascularization from 2012 and 2015 emphasized an extension of PCI to 24h and in 2017’s edition to 48h. Delayed revascularization procedure remains a dilemma for hemodynamically stable patients who missed the reperfusion window.

Aim of study. Assessment of the impact of late myocardial revascularization on left ventricular systolic function, reinfarction rate, and major cardiovascular events (MACE) referring to PCI in different periods of time from symptoms onset.

Methods and materials. Our clinical research represents a retrospective study based on data from 40 patients treated with PCI within the Institute of Cardiology from 2020 to 2022. All subjects were divided into 3 groups: I group - includes 15 patients with PCI performed within the first 12h from symptoms onset, II group - includes 12 patients with PCI performed within 12-24h and III group - includes 13 patients with PCI performed after 48h. All participants were examined after 30 days and 6 months from the PCI.

Results. None of the subjects developed reinfarction or MACE during all follow-up stages. Only one subject was reexamined via PCI after 6 months due to the recurrence of angina, but there hasn’t been any progressive residual lesion and the drug-eluting stent has been completely permeable. Improvement of left ventricle systolic function (initial baseline >40 %) was associated with early revascularization: in group I, the mean of EF (ejection fraction) increased from 40,2 to 46,1%, $P < 0,001$, followed by group III, where the mean of EF increased from 37,07 to 39,53%, $P < 0,001$, and followed by patients from the group II, where the mean of EF increased from 44,3 to 45,1%. According to NYHA classes of heart failure, patients who have undergone a reperfusion within the first 12h have a lower rate to develop heart failure than latecomers (group II and III). Most of the subjects were assigned NYHA class II: 10 subjects (73,3 %) from group I, 11 subjects (91,6 %) from group II and 6 subjects (46,1 %) from group III.

Conclusion. Early reperfusion therapy is associated with low reinfarction rate as well as few major cardiovascular events. However, late reperfusion therapy hasn’t been associated with high reinfarction rate or major cardiovascular events.