SUMMARY

In ST-segment elevation myocardial infarction (STEMI), rapid revascularization is of paramount importance, and direct transport to a percutaneous coronary intervention (PCI)-capable center is recommended. Long-term follow-up data comparing both approaches are scarce. The purpose of this study was to compare the long-term outcomes of direct primary transfer (PT) and indirect secondary transfer (ST) in patients with STEMI.

Method and study group: We enrolled consecutive patients referred for STEMI within 12 h of symptom onset. The primary endpoint was to compare long-term lethality of direct PT and indirect ST in patients with STEMI. During a two-year period (2008-2009), we prospectively recorded lethality and the door-to-balloon time (DBT) of 869 patients with STEMI from arrival at the first hospital until reperfusion by PCI in the catheterization laboratory. A total of 677 patients (77.9%) were enrolled for the final evaluation, with 192 (22.1%) patients excluded. We divided the patients into two groups: the first group (PT) had been transferred directly from the field to a catheterization laboratory, while the second group (ST) had been transferred from regional hospitals to a catheterization laboratory.

The final analysis included 677 patients aged 20 to 96 years; the mean age was 64,04 years, with a standard deviation of 12,03 years. There were 475 men, i.e. 70,16 %, and 202 women, i.e. 29,84 %. 354 patients (52,29 %) had been transferred directly from the field to a catheterization laboratory and 323 patients (47.71%) had been transferred from regional hospitals to a catheterization laboratory.

Results: The median DBT was 34 minutes with 95% confidence limits of median were <33;36> minutes, distribution range <20;115> minutes for PS, and 100 minutes with 95% confidence limits of median <95;106> minutes, distribution range <35;160> minutes for ST. One-month lethality was 3,95% for PS and 9,46 % for ST, i.e. a statistically significant difference at a level of significance of $p = 0.002$. One-year lethality was 7,35 % for PS and 20,51 % for ST with a statistically significant difference at a level of significance of $p < 0.005$. Eight-year lethality for PS was 26,8 vs 32,6 % for ST, i.e. $p = 0.035$.Median of cardiac arrest for PT 1432 days (n=25), vs ST 266 days (n= 31), level of significance was $p = 0,024$.

Conclusion : Direct transport of patients with STEMI to a catheterization laboratory significantly shortens the time-to-reperfusion and thus markedly reduces the lethality rates in these patients.

Key words: STEMI, primary percutaneous coronary intervention (p-PCI), times and lethality.