

The Effect of Systemic Hypothermia on Myocardial Salvage in Patients with STEMI and Primary PCI

Herscovici, Romana; Hod, Hanoch; Matetzki, Shlomi; Koperstein, Refael; Feinberg, Micha; Grupper, Avishay; Segev, Amit

Chaim Sheba Medical Center, The Leviev Heart Center, Tel-Hashomer, Israel

Introduction: Mild therapeutic hypothermia (MTH) improves survival and neurological outcome in cardiac arrest patients. Preliminary studies showed that hypothermia may be cardio-protective in patients with anterior STEMI undergoing primary PCI. The aim of the present study was to evaluate the effect of MTH on myocardial salvage in patients after out of hospital cardiac arrest (OHCA) with first anterior STEMI.

Methods and Results: The study group consisted of 25 consecutive patients after OHCA due to shockable rhythm with first anterior STEMI who were treated routinely by MTH and primary PCI. The control group consisted of a matched group of patients with anterior STEMI without OHCA. Myocardial salvage was evaluated at hospital discharge by left ventricular ejection fraction (EF) using echocardiography and by clinical signs of congestive heart failure (CHF). The mean EF in the study group was $36\% \pm 8.76$ compared with a mean EF of $37.8\% \pm 9.8$ in the control group. The rate CHF was similar in both groups (50%).

Conclusions: In this small group of high risk patients with first anterior STEMI who underwent CPR, PPCI and MTH the myocardial salvage was similar to a matched group of lower risk STEMI patients. We propose a larger national multicenter study to evaluate the beneficial effects of MTH in high risk myocardial infarct patients.