

## **Therapeutic Hypothermia after Cardiac Arrest**

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### **Purpose of the study**

To investigate treatment logistics, prognostic factors and neurological outcome for cardiac arrest survivors treated with induced hypothermia.

### **Materials and Methods**

Sixty unconscious cardiac arrest patients with return of spontaneous circulation (ROSC) were treated with induced hypothermia in three Swedish hospitals during 18 months. Treatment was induced within two hours post arrest using cold saline (+4°C) (1), after which a water filled wrapping system (ThermoWrap®, MTRE) maintained target temperature at 33±1°C for 24h and controlled re-warming at 0.5 °C/h. The neurological outcome was evaluated at hospital discharge using the CPC-scale (2), where CPC 1-2 represents good outcome (mild or no impairment) and CPC 3-5 represents bad outcome (severe neurological impairment or death).

### **Results**

Target temperature was reached in all patients. Among 60 patients, 42 male and 18 female (mean age 64), a favorable outcome was found in 27 patients (45%) and a bad outcome in 33 patients (55%). In the 43 patients with VT/VF as initial rhythm, 24 (56%) had a good outcome, whereas in 17 patients with asystole/PEA as initial rhythm only 3 (18%) had a good outcome. Excluding patients with carcinogenic shock, asystole/PEA as initial rhythm and those with a prolonged time to ROSC (>30 min), 37 patients remained, with a good outcome rate of 65% (24 patients). All survivors are evaluated neurologically after six months.

### **Conclusion**

Therapeutic hypothermia is easy to perform and seemingly without complications. Patients with VF/VT and a limited time to initiation of CPR and ROSC seem to benefit, which is in accordance with the published studies (3,4) and the ILCOR recommendations (5). Patients with asystole/PEA, time to ROSC >30 min or who are in carcinogenic shock seem less likely to benefit from therapeutic hypothermia.

### **References :**

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