

## Letter

# Therapeutic hypothermia after cardiac arrest – the implementation of the ILCOR guidelines in clinical routine is possible!

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See related letter by Sander *et al.*, <http://ccforum.com/content/10/2/407>

Therapeutic hypothermia after cardiac arrest is a treatment with a high level of evidence. In 2003 the International Liaison Committee on Resuscitation (ILCOR) recommended such treatment for all comatose survivors of out-of-hospital cardiac arrest when the initial rhythm was ventricular fibrillation [1].

However, recent studies have shown that only a minority of resuscitated patients are treated with therapeutic hypothermia in both American and European intensive care units [2-4]. A letter recently published in *Critical Care* reported the use of therapeutic hypothermia in Germany in only 38% of departments treating patients after cardiac arrest [5].

To improve adherence to the ILCOR guidelines we developed a written standard operating procedure (SOP) for patients after cardiac arrest admitted to our 38-bed medical intensive care unit.

Starting in December 2005 the SOP was to be applied to all comatose patients after cardiac arrest, irrespective of the initial rhythm. Since then the SOP has been applied in 28 out of 34 eligible patients. For four patients the physician in charge did not consider therapeutic hypothermia despite clear indication. In two other patients hypothermia was considered to be contraindicated because of extensive coronary vasospasm or massive pulmonary bleeding of a bronchial carcinoma, respectively. In all the remaining 28 patients surface cooling with technical devices (CertiCool from MTRE, Yavne Israel, and ArcticSun from Medivance, Louisville, KY, USA) was used to induce and maintain hypothermia for 24 hours. The target temperature of 33°C was reached in  $6.0 \pm 3.2$  hours (mean  $\pm$  SD).

In none of the patients were serious adverse events potentially related to therapeutic hypothermia, such as clinically relevant bleeding episodes or arrhythmias, observed. In 12 out of 28 patients (42.9%) treated with therapeutic hypothermia a favourable neurologic outcome was reached (Cerebral Performance Category 1 or 2).

Although our limited experience does not yet permit a valid statistical evaluation of the impact of therapeutic hypothermia on the neurological outcome of the patients, initial results are encouraging. We are currently trying to shorten the time to target temperature, which we feel was still too long in some patients. However, the simple availability of a written SOP has already led to the application of therapeutic hypothermia in the vast majority of our patients after cardiac arrest. All physicians caring for such patients should be encouraged to establish their own protocol for therapeutic hypothermia at their institutions, to facilitate the widespread application of this evidence-based treatment.

## Competing interests

The authors declare that they have no competing interests.

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