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Report from the 2nd Therapeutic Temperature Management Congress

The attention for the role of temperature in the development of tissue injury is increasing. Large observational studies show that development of fever is linked to an increase in the severity of neurological injury, and to an increased risk of adverse outcome in ischaemic stroke, subarachnoid haemorrhage, traumatic brain injury and post-anoxic injury following cardiac arrest. Numerous studies have shown that artificially lowering body temperature following cardiac arrest (i.e., mild therapeutic hypothermia) significantly improves neurological outcome. Practical issues and new developments in this field were discussed at the 2nd therapeutic temperature management congress that was held in Barcelona from October 1st until October 4th 2008.

More than 150 experts from around the world attended the second therapeutic temperature management meeting (TTM) to discuss their new research findings and experiences, and to debate implementation strategies and new research findings. The faculty included clinicians from various specialities ranging from critical care medicine, neonatology, neurology neurosurgery, and cardiology to trauma care and emergency medicine. Basic researchers were also well represented.

The congress opened with a comprehensive lecture on the mechanisms underlying the protective effects of hypothermia, which was given by Bernd Böttiger from Cologne, Germany. This was followed by a state-of-the-art lecture on clinical applications of therapeutic cooling, given by Kees Polderman from Utrecht, the Netherlands

The first full day of the congress was devoted to general concepts of temperature management and to initial stabilisation of the brain-injured patient in the ambulance and emergency room. General concepts as well as specific strategies were discussed by distinguished speakers from Europe and the United States including Eldar Soreide (Stavanger, Norway), Armand Girbes (Amsterdam, the Netherlands), Michael Wanscher (Copenhagen, Denmark), Kjetil Sunde (Oslo, Norway), Hans Friberg (Lund, Sweden), Marvin Wayne (Bellingham, United States), Pascal Vranckx (Hasselt, Belgium), Juan Sahuquillo (Barcelona, Spain), Stephan Mayer (New York, United States) and David Gaieski (Philadelphia, United States). The topics included such diverse issues as application of the concept of treatment bundles in neurologically injured patients, use of percutaneous interventions following cardiac arrest and the combination of these with cooling strategies, combining hypothermia with decompressive surgery, as well as initial stabilisation and subsequent management of circulation and ventilation. Data from the hypothermia registry, a 1000-plus database registering outcomes and interventions in patients cooled following cardiac arrest, was presented by Niklas Nielsen from Malmö, Sweden.

The second day was devoted to hypothermia for indications other than cardiac arrest – traumatic brain injury (TBI), stroke, subarachnoid haemorrhage, neonatal asphyxia, and others. Data on the use of hypothermia in severe TBI in China was presented by Wusi Qiu (Hangzhou, People's Republic of China), and management of braininjured patients in the battlefield was discussed by Rocco Armonda (Bethesda, United States). The afternoon was devoted to fever management protocols and hypothermia implementation issues (numerous speakers) and cooling methods (William Coplin, Detroit, United States). Much time was devoted to panel discussions and nursing perspectives (Mary Kay Bader, Mission Viejo, United States; Mike Clumpner and Jim Mobley, Spartanburg, United States).

The last day was devoted to new developments and planned/ongoing trials, as well as presentation of oral abstracts. Marianne Thoresen (Bristol, United Kingdom) discussed current status and ongoing trials in neonatal asphyxia; the upcoming ESICM Eurotherm trial for severe TBI which plans to start enrolment of patients in 2009 was presented, as well as a European study for cooling awake patients with ischaemic stroke and possibilities for combining hypothermia with other neuroprotective strategies such as Xenon were discussed by Mervyn Maze, London, United Kingdom.

Many other topics were dealt with during this 3-day congress; too many to discuss everything here. The meeting ended with a call to implement existing evidence for cardiac arrest patients throughout the world, and encouraged centres to join the upcoming Eurotherm study (details of which can be found at www.esicm.org).

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