Therapeutic hypothermia to reduce intracranial pressure after traumatic brain injury: the Eurotherm3235 RCT

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Declared competing interests of authors: Peter JD Andrews reports grants from the European Society of Intensive Care Medicine during the conduct of the study and personal fees from BARD Medical (Covington, GA, USA) and INTEGRA Neurosciences Ltd (Andover, UK) outside the submitted work. H Louise Sinclair, Bridget Harris, Gordon Murray and Aryelly Rodriguez report grants from the European Society of Intensive Care Medicine during the conduct of the study.

Published August 2018
DOI: 10.3310/hta22450

Plain English summary

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Health Technology Assessment 2018; Vol. 22: No. 45
DOI: 10.3310/hta22450

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Following a blow to the head (traumatic brain injury (TBI)), the brain can swell like a bruise, but is enclosed within the skull. If the brain swells, it can lead to a build-up of pressure that can cause damage to parts of the brain. Many patients who have suffered a traumatic brain injury are admitted to an intensive care unit. This is usually because they have become unconscious as a result of the brain injury. These patients require specialised care and often cannot breathe well enough for themselves. They are therefore sedated and attached to a breathing machine, called a ventilator.

This study included 387 participants and looked at whether or not cooling the body down to between 32 and 35 °C within 10 days of injury to try to reduce any brain swelling affected longer-term recovery from TBI. Each participant was randomly allocated to receive either the usual care given or the usual care with the additional treatment of cooling the body to between 32 and 35 °C for at least 48 hours.

The study was stopped early because of concerns about safety raised by the independent Data and Safety Monitoring Committee and agreed by the Trial Steering Committee. The results of this study showed that more patients died after receiving hypothermia than standard care alone and that the survivors who had received hypothermia made a less good recovery than those receiving standard care alone.

It was conclude that hypothermia should not be used to reduce pressure after a TBI.
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This report

The research reported in this issue of the journal was funded by the HTA programme as project number 11/01/30. The contractual start date was in August 2012. The draft report began editorial review in July 2017 and was accepted for publication in February 2018. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The HTA editors and publisher have tried to ensure the accuracy of the authors’ report and would like to thank the reviewers for their constructive comments on the draft document. However, they do not accept liability for damages or losses arising from material published in this report.

This report presents independent research funded by the National Institute for Health Research (NIHR). The views and opinions expressed by authors in this publication are those of the authors and do not necessarily reflect those of the NHS, the NIHR, NETSCC, the HTA programme or the Department of Health and Social Care. If there are verbatim quotations included in this publication the views and opinions expressed by the interviewees are those of the interviewees and do not necessarily reflect those of the authors, those of the NHS, the NIHR, NETSCC, the HTA programme or the Department of Health and Social Care.

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