

Nutritional management in newborn babies receiving therapeutic hypothermia: two retrospective observational studies using propensity score matching

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Declared competing interests of authors: Chris Gale reports grants from the Medical Research Council (MRC) (London, UK) and the National Institute for Health Research (NIHR) during the conduct of the study, and grants from NIHR, Mason Medical Research Foundation (London, UK), Rosetrees Trust (Edgware, UK) and from the Canadian Institute for Health Research (Ottawa, ON, Canada), outside the submitted work. He reports a grants from Chiesi Pharmaceuticals (Parma, Italy) outside the submitted work for a research study and a personal fee from Chiesi Pharmaceuticals to support attendance at an educational meeting. Chris Gale is vice chairperson of the NIHR Research for Patient Benefit London Regional Assessment Panel (2016–present). Chris Gale was an unremunerated member of the Neonatal Data Analysis Unit Steering Board that oversees the National Neonatal Research Database (2014–20). Cheryl Battersby reports personal fees from AbbVie Pharmaceuticals (M Maidenhead, UK) and Chiesi Pharmaceuticals, outside the submitted work. Cheryl Battersby sits on the NIHR Health Technology Assessment (HTA) Prioritisation Panel for Maternal, Child and Mental Health Care (2019–present) Cheryl Battersby is an unremunerated member of the National Neonatal Research Database Steering Board (April 2020 to present). Shalini Ojha reports grants from the MRC and the Arts and Humanities Research Council (Swindon, UK), outside the work. Jon Dorling reports grants from Nutrinia Ltd (Ramat Gan, Israel), outside the submitted work. The grant from Nutrinia Ltd in 2018 was for part of his salary to work as an expert advisor on a trial. He was a member of the NIHR HTA General Board (2017–18) and the NIHR HTA, Newborn and Child Health Panel (2013–18). Nicholas Longford's post is in part funded by the Healthcare Quality Improvement Programme (London, UK) as part of the National Neonatal Audit Programme (London, UK). Nicholas Longford reports grants from Chiesi Pharmaceuticals, outside the submitted work.

Published June 2021

DOI: 10.3310/hta25360

Plain English summary

Nutritional management in therapeutic hypothermia

Health Technology Assessment 2021; Vol. 25: No. 36

DOI: [10.3310/hta25360](https://doi.org/10.3310/hta25360)

NIHR Journals Library www.journalslibrary.nihr.ac.uk

Plain English summary

Every year, approximately 1200 babies in the UK suffer a lack of oxygen to the brain around birth. This is called hypoxic-ischaemic encephalopathy and can lead to brain injury or death. To treat hypoxic-ischaemic encephalopathy, babies receive cooling treatment in which their body temperature is lowered.

Doctors do not know the best way to give nutrition to babies receiving cooling treatment. Babies can either be fed milk into their stomach (enteral nutrition) or be given nutrients through their veins (parenteral nutrition). We compared babies who were fed milk while they were being cooled with babies from whom milk was withheld while they were being cooled to see if there was a difference in the frequency of necrotising enterocolitis, a severe gut disease. In addition, we compared babies who received parenteral nutrition while they were being cooled with babies who did not to see if there was a difference in infections. Finally, we looked at other outcomes, including survival and breastfeeding.

We used the National Neonatal Research Database, which holds de-identified (i.e. no baby can be identified) information on all babies who have received NHS neonatal care. We used a statistical approach to match babies in each group (i.e. fed babies and not fed babies) as closely as possible so that any difference in outcomes was because of different nutrition and not because of other differences.

We included > 6000 babies with hypoxic-ischaemic encephalopathy. Approximately one in three babies received milk feeds and one in four babies received parenteral nutrition during cooling. Necrotising enterocolitis was very rare.

More babies who were fed milk during cooling had good outcomes (e.g. being breastfed at discharge) and fewer had necrotising enterocolitis. Most of these babies received only a small amount of milk in the first 3 days. More babies given parenteral nutrition had infections, but also more survived.

This suggests that it is probably safe and may be beneficial to feed babies milk during cooling. More research should look at milk feeding and parenteral nutrition during cooling.

Health Technology Assessment

ISSN 1366-5278 (Print)

ISSN 2046-4924 (Online)

Impact factor: 3.370

Health Technology Assessment is indexed in MEDLINE, CINAHL, EMBASE, the Cochrane Library and Clarivate Analytics Science Citation Index.

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This report

The research reported in this issue of the journal was funded by the HTA programme as project number 16/79/03. The contractual start date was in September 2017. The draft report began editorial review in December 2019 and was accepted for publication in June 2020. 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.

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