Very low-dose dexamethasone to facilitate extubation of preterm babies at risk of bronchopulmonary dysplasia: the MINIDEX feasibility RCT

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Declared competing interests of authors: Helen Yates reports personal fees from AbbVie Inc. (Lake Bluff, IL, USA) outside the submitted work.

Published August 2019
DOI: 10.3310/eme06080

Plain English summary

The MINIDEX feasibility RCT

Efficacy and Mechanism Evaluation 2019; Vol. 6: No. 8
DOI: 10.3310/eme06080

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Plain English summary

Babies born prematurely who require prolonged support with breathing machines through a breathing tube (i.e. mechanical ventilation) are at an increased risk of developing long-term breathing problems because of a condition called bronchopulmonary dysplasia (BPD), sometimes called chronic lung disease. Babies with BPD have an increased risk of learning difficulties and cerebral palsy (CP).

Dexamethasone has been used to help babies get off mechanical ventilation. However, previous research shows that babies who are given large doses of dexamethasone and given dexamethasone in the first week of life have an increased risk of CP and learning difficulties. The benefits of the use of dexamethasone in babies with a low risk of developing BPD is outweighed by an increased risk of developmental delay.

Neonatologists now tend to use only low or very low doses of dexamethasone in babies older than 1 week of age, who are at high risk of developing BPD. There is no clear evidence to support this. To plan the research needed to inform practice, evidence was required to suggest that giving a very small dose of dexamethasone to a baby who is dependent on a ventilator will improve their lungs enough to allow the breathing tube to be removed.

This trial asked whether or not giving a very small dose of dexamethasone to a baby born at $\leq$ 30 weeks' gestation who is 'stuck' on a ventilator and at high risk of BPD will help the baby come off the ventilator. Babies were allocated randomly to receive dexamethasone or a dummy medicine (i.e. a placebo). Their breathing outcomes and side effects were compared. A few babies had assessments carried out on very small blood samples or breathing tube fluid samples to help to see what effects the dexamethasone has on the lungs.

There were fewer babies suitable to participate in the trial than anticipated, so recruitment was poor. The funder decided to stop recruitment. The study was not able to answer the research questions.

Efficacy and Mechanism Evaluation

ISSN 2050-4365 (Print)

ISSN 2050-4373 (Online)

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Editorial contact: journals.library@nihr.ac.uk

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This report

The research reported in this issue of the journal was funded by the EME programme as project number 13/158/48. The contractual start date was in November 2015. The final report began editorial review in November 2018 and was accepted for publication in February 2019. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The EME editors and production house have tried to ensure the accuracy of the authors' report and would like to thank the reviewers for their constructive comments on the final report document. However, they do not accept liability for damages or losses arising from material published in this report.

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