Efficacy and Safety of Inhaled Budesonide in Very Preterm Infants at Risk for Bronchopulmonary Dysplasia

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Primary objective- Survival without BPD at 36 weeks gestational age (GA)Secondary objectives- Neurodevelopment at a corrected age of 18-22 months- Adverse treatment effects- Mortality at 36 weeks gestational age- BPD incidence at 36 weeks...

Ethical review	Approved WMO
Status	Recruiting
Health condition type	Neonatal respiratory disorders
Study type	Interventional

Summary

ID

NL-OMON38202

Source
ToetsingOnline

Brief title
NEUROSIS (Neonatal European Study of Inhaled Steroids)

Condition

- Neonatal respiratory disorders

Synonym
Chronic lung disease (CLD) of prematurity or bronchopulmonary dysplasia (BPD)

Research involving
Human

Sponsors and support

Primary sponsor: Erasmus MC, Universitair Medisch Centrum Rotterdam
Source(s) of monetary or material Support: Europese Unie

Intervention

Keyword: Bronchopulmonary dysplasia, Inhaled corticosteroids, Preterm infants, Randomised controlled trial

Outcome measures

Primary outcome

The primary outcome is defined as a combination of BPD or death at 36 weeks

gestational age.

Secondary outcome

- Neurodevelopmental outcomes at 18 - 22 months;

- Adverse treatment effects;

- Mortality at 36 weeks gestationale age;

- BPD incidence at 36 weeks gestational age;

- Duration of positive pressure respiratory support or supplemental oxygen.

Study description

Background summary

Survival of extremely low birth weight (ELBW) infants has improved in recent decades, however BPD remains a major health care problem. BPD is a chronic lung disease that occurs in premature infants. BPD not only contributes to the mortality of preterm infants but is also associated with impaired psychomotor outcome in ELBW survivors. A number of approaches followed in preventing or treating BPD have been evaluated in the context of controlled studies. Among the interventions studied are antenatal and postnatal corticosteroids Systemic postnatal corticosteroid treatment is perhaps the most controversial approach known in BPD care. Several reports on the adverse effects of dexamethasone on growth and neurodevelopmental outcomes appeared, thus the widespread use of systemic postnatal steroids was replaced by almost complete avoidance of this form of therapy.
Nevertheless, the incidence of ELBW survivors with BPD is increasing and new modalities for prevention and treatment need to be explored. Inhaled corticosteroids have been established as the first-line of treatment in adults

and children with persistent asthma, the most common chronic inflammatory disease. As in asthma, the biological rationale of corticosteroid therapy in infants with evolving or established BPD is based on its anti-inflammatory properties. Some trials concerning inhaled corticosteroids did not prevent BPD, but was associated with a lower use of systemic glucocorticoid therapy and mechanical ventilation. One study with Inhaled steroids resulted in a significantly higher success rate in extubation within the first 2 weeks of life and a more pronounced improvement in lung compliance.
A study to evaluate the efficacy of inhaled corticosteroids seems to be justified. The hypothesis of this study is that early prophylactic inhalation of budesonide reduces the absolute risk of BPD or death in preterm infants born <28 weeks gestational age by 10%.

Study objective

Primary objective
- Survival without BPD at 36 weeks gestational age (GA)

Secondary objectives
- Neurodevelopment at a corrected age of 18-22 months
- Adverse treatment effects
- Mortality at 36 weeks gestational age
- BPD incidence at 36 weeks gestational age
- Duration of positive pressure respiratory support or supplemental oxygen

Study design

Randomised placebo-controlled, multicentre clinical trial.

Intervention

Within 2 years 850 infants of 23-27 weeks GA will be randomised during the first 12 hours of life to Budesonide (BS) of placebo to prevent BPD. Study drugs will be administered via Aerochamber and continued until infants are either off supplementary oxygen and poitive pressure support of have reached a GA of 32 O/7 weeks regardless of ventilatory status.

Study burden and risks

Inflammation is central to the development of BPD. Corticosteroids (CS) have antiinflammatory properties and early inhalation of CS may allow for beneficial local effects on the pulmonary system with a lower risk of undesirable systemic side effects.

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Children (2-11 years)

Inclusion criteria

- gestational age of 23 0/7-27 6/7 weeks,
- postnatal age < 12 hours,
- necessity for any form of positive pressure support (mechanical or nasal ventilation or CPAP),
- singleton or second born in case of multiple pregnancy
- parental consent for participation.

Exclusion criteria

A clinical decision not to administer therapies (infant not considered viable), dysmorphic features or congenital malformations that adversely affect life expectancy or neurodevelopment and known or suspected congenital heart disease (not including a

persistent ductus arteriosus and/or an atrial septum defect). The clinical assessment of dysmorphic features, congenital malformations, suspected congenital heart disease and the decision to exlude an infant for the afore mentioned reasons will be left to the discretion of the attending physician.

Study design

Design

Study phase:	3
Study type:	Interventional
Intervention model:	Parallel
Allocation:	Randomized controlled trial
Masking:	Double blinded (masking used)
Control:	Placebo
Primary purpose:	Prevention

Recruitment

NL

Recruitment status:	Recruiting
Start date (anticipated):	18-03-2013
Enrollment:	40
Type:	Actual

Medical products/devices used

Product type:	Medicine
Brand name:	Budiair
Generic name:	budesonide
Product type:	Medicine
Brand name:	HFA-134a
Generic name:	Norflurane
Registration:	Yes - NL outside intended use

Ethics review

Approved WMO Date:	28-08-2012
Application type:	First submission
Review commission:	METC Erasmus MC, Universitair Medisch Centrum Rotterdam (Rotterdam)
Approved WMO Date:	12-09-2012
Application type:	First submission
Review commission:	METC Erasmus MC, Universitair Medisch Centrum Rotterdam (Rotterdam)

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

ID: 29190
Source: NTR
Title:

In other registers

Register	ID
EudraCT	EUCTR2009-012203-26-NL
ISRCTN	ISRCTN80181452
CCMO	NL35679.078.11
OMON	NL-OMON29190

Study results