Doxapram in preterm newborns

Gepubliceerd: 15-01-2020 Laatst bijgewerkt: 18-08-2022

This study hypothesizes that doxapram will protect preterm infants from both invasive ventilation (and related lung disease) and apnea of prematurity related hypoxia (and related impaired brain development).

Ethische beoordeling	Positief advies
Status	Werving nog niet gestart
Type aandoening	-
Onderzoekstype	Interventie onderzoek

Samenvatting

ID

NL-OMON24880

Bron
Nationaal Trial Register

Verkorte titel
DOXA Trial

Aandoening

Apnea of prematurity, respiratory insufficiency

Ondersteuning

Primaire sponsor: Erasmus University Medical Center Rotterdam
Overige ondersteuning: ZonMw, Goed Gebruik Geneesmiddelen

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Death or severe disability at the age of 2 years corrected age.

Disability will be defined as 1 or more of the following:
- cognitive delay

- cerebral palsy
- severe hearing loss
- bilateral blindness

Toelichting onderzoek

Achtergrond van het onderzoek

Preterm infants often suffer from apnea of prematurity (AOP; a cessation of breathing) due to immaturity of the respiratory system. AOP can lead to oxygen shortage and a low heart rate which might harm the development of the newborn, especially the central nervous system. In order to prevent oxygen shortage, infants are treated with non-invasive respiratory support and caffeine. Despite these treatments, many preterm newborns still suffer from AOP and may need invasive mechanical ventilation. Although this will result in complete resolution of AOP, invasive mechanical ventilation has the disadvantage of being a major risk of chronic lung disease and impaired neurodevelopmental outcome. Restrictive invasive ventilation is therefore advocated nowadays in preterm infants.
Doxapram is a respiratory stimulant that has been administered off-label to treat AOP. Doxapram, as add-on treatment, seems to be effective in treating AOP and to prevent invasive mechanical ventilation. It is unclear if a preterm infant benefit from doxapram treatment on the longer term. This study compares doxapram to placebo and hypothesizes that doxapram will protect preterm infants from both invasive ventilation (and related lung disease) and AOP related oxygen shortage (and related impaired brain development).

The main objective of the trial is to investigate if doxapram is safe and effective in reducing the composite outcome of death and neurodevelopmental impairment/severe disability at 2 years corrected age as compared to placebo. This multicenter double blinded randomized placebo-controlled superiority trial will be conducted in neonatal intensive care units in the Netherlands and Belgium, including 8 years follow-up. After written informed-consent the patients will be randomized into the doxapram treatment group or the placebo treatment group. Randomization will be stratified based on center and gestational age < or >= 26 weeks.

Doel van het onderzoek

This study hypothesizes that doxapram will protect preterm infants from both invasive ventilation (and related lung disease) and apnea of prematurity related hypoxia (and related impaired brain development).

Onderzoeksopzet

Baseline, 36 weeks of postmenstrual age, hospital discharge, and follow-up at 2, 5.5 and 8 years.

Onderzoeksproduct en/of interventie

Blinded continuous doxapram or placebo (glucose 5%) infusion as long as needed. Therapy is down titrated or stopped based on the patients' condition. If endotracheal intubation is needed study drug is stopped. After extubation study drug may be restarted. Switch to gastro-enteral administration is allowed if no iv-access is needed for other reasons.

Contactpersonen

Publiek

Erasmus MC - Sophia
Sinno Simons

0031641376695

Wetenschappelijk

Erasmus MC - Sophia
Sinno Simons

0031641376695

Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

- Admitted to the NICU of one of the participating centres
- Written informed consent of both parents or legal representatives
- Gestational age at birth < 29 weeks
- Caffeine therapy, adequately dosed
- Optimal non-invasively supported according to the local treatment policy (with nasal CPAP or ventilation ((S)NIPPV, NIV-NAVA, BIPAP/Duopap, SIPAP)
- Apnea that require a medical intervention as judged by the attending physician

Belangrijkste redenen om niet deel te kunnen nemen

(Exclusiecriteria)

- previous use of open label doxapram
- use of theophylline (to replace doxapram)
- chromosomal defects (e.g. trisomy 13, 18, or 21)
- major congenital malformations that: compromise lung function (e.g. surfactant protein deficiencies, congenital diaphragmatic hernia); result in chronic ventilation (e.g. Pierre Robin sequence); increase the risk of death or adverse neurodevelopmental outcome (congenital cerebral malformations, chromosomal abnormalities); palliative care or treatment limitations because of high risk of impaired outcome

Onderzoeksopzet

Opzet

Type:	Interventie onderzoek
Onderzoeksmodel:	Parallel
Toewijzing:	Gerandomiseerd
Blindering:	Dubbelblind
Controle:	Placebo

Deelname

Nederland

Status:	Werving nog niet gestart
(Verwachte) startdatum:	01-04-2020
Aantal proefpersonen:	398
Type:	Verwachte startdatum

Voornemen beschikbaar stellen Individuele Patiënten Data (IPD)

Wordt de data na het onderzoek gedeeld: Ja

Toelichting
https://dmponline.dcc.ac.uk/plans/31885/export.pdf

Ethische beoordeling

Positief advies

Datum:	15-01-2020
Soort:	Eerste indiening

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

Geen registraties gevonden.

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

Register	ID
NTR-new	NL8288
Ander register	METC Erasmus MC : MEC2020xxx

Resultaten