To determine the requirement of cysteine in preterm infants with different gestational ages and postnatal age.

Gepubliceerd: 07-09-2005 Laatst bijgewerkt: 13-12-2022

1. Cysteine is an essential amino acid for newborn preterm infants; 2. Cysteine requirements change rapidly with postnatal age; 3. The change in cysteine requirement with age is based upon cystathionase activity; 4. Intestinal cystathionase...

Ethische beoordeling	Positief advies
Status	Werving gestopt
Type aandoening	-
Onderzoekstype	Interventie onderzoek

Samenvatting

ID

NL-OMON21228

Bron
Nationaal Trial Register

Verkorte titel
N/A

Ondersteuning

Primaire sponsor: Sophia Children’s Hospital Fund, the Netherlands
P.O. Box 2060
3000 CB Rotterdam
Overige ondersteuning: Sophia Children’s Hospital Fund, the Netherlands
P.O. Box 2060
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Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

1. Fractional oxidation of 13C-phenylalanine;
2. Whole body flux of 13C-phenylalanine.

Toelichting onderzoek

Achtergrond van het onderzoek

Cysteine is considered to be a conditionally essential amino acid in premature infants. This is due to immaturity of the enzymatic pathway responsible for conversion of methionine to cysteine.

Cysteine plays a key role in glutathione synthesis which is a very important antioxidant. Many complications of premature birth are based upon oxidant damage.

In this study we will investigate the cysteine requirement in premature infants. Infants born with a gestational age of 26-29 weeks will be studied at a post-conceptional age of 30-32 weeks and at a post-conceptional age of 35-37 weeks. Infants born at a gestational age of 32-34 weeks will also be studied at a post-conceptional age of 35-37 weeks. Preterm infants with the above described characteristics regarding postnatal and gestational age will be fed testdiets with graded amounts of cystine.
Fractional oxidation will be measured using the Indicator Amino Acid Oxidation method.

Doel van het onderzoek

1. Cysteine is an essential amino acid for newborn preterm infants;

2. Cysteine requirements change rapidly with postnatal age;

3. The change in cysteine requirement with age is based upon cystathionase activity;

4. Intestinal cystathionase activity is of major importance for the conversion of methionine to cysteine.

Onderzoeksopzet

N/A

Onderzoeksproduct en/of interventie

Infants receive a testdiets with graded amounts of Cystine for 32 hours.

Contactpersonen

Publiek

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Wetenschappelijk

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

1. Infants born with a gestational age of 26-29 weeks will be studied at a post-conceptional age of 30-32 weeks and at a post-conceptional age of 35-37 weeks.

2. Infants born at a gestational age of 32-34 weeks will also be studied at a post-conceptional age of 35-37 weeks.

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

1. Congenital metabolic disease;

2. Congenital anomalies;

3. Gastroinestinal diseases.

Onderzoeksopzet

Opzet

Type:	Interventie onderzoek
Onderzoeksmodel:	Cross-over
Toewijzing:	Gerandomiseerd
Blindering:	Enkelblind
Controle:	Actieve controle groep

Deelname

Nederland

Status:	Werving gestopt
(Verwachte) startdatum:	01-11-2004
Aantal proefpersonen:	80
Type:	Werkelijke startdatum

Ethische beoordeling

Positief advies

Datum:	07-09-2005
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	NL208
NTR-old	NTR245
Ander register	: N/A
ISRCTN	ISRCTN35832828

Resultaten

Samenvatting resultaten

1. Am J Clin Nutr. 2007 Oct;86(4):1120-5.
2. Pediatrics. 2008 Mar;121(3):e561-7. Epub 2008 Feb 18.
