Does antenatal allopurinol during perinatal asphyxia reduce post-hypoxic-ischemic reperfusion damage in the newborn? A double blind randomised placebo controlled multicenter trial.

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In the present proposal, we aim to answer whether antenatal allopurinol administration does reduce hypoxic-ischaemic encephalopathy in neonates exposed to intra-uterine asphyxia.

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Congenital and peripartum neurological conditions
Study type	Interventional

Summary

ID

NL-OMON36929

Source
ToetsingOnline

Brief title
ALLO-trial

Condition

- Congenital and peripartum neurological conditions
- Neonatal and perinatal conditions

Synonym
brain damage, Encephalopathy

Research involving
Human

Sponsors and support

Primary sponsor: Universitair Medisch Centrum Utrecht
Source(s) of monetary or material Support: ZonMw

Intervention

Keyword: allopurinol, neonates, perinatal asphyxia, reperfusion damage

Outcome measures

Primary outcome

Primary outcome measure is the protein S100B, a marker for neuronal damage, together with the severity of oxidative stress as measured in umbilical cord blood en neonatal blood (for example non protein bound iron, neuroprostane).

Secondary outcome

Secondary outcomes are neonatal mortality and serious composite morbidity (admission, convulsions, Sarnat-score). Farmacodynamics of allopurinol will also be investigated.

Study description

Background summary

Hypoxic-ischaemic encephalopathy is associated with development of cerebral palsy and cognitive disability later in life, and is therefore one of the fundamental problems in perinatal medicine. The xanthine-oxidase inhibitor allopurinol reduces the production of free radical formation, thereby limiting the amount of hypoxia-reperfusion damage. Animal and human studies suggest that administration of allopurinol immediately prior to delivery in the case of suspected intra-uterine asphyxia might reduce hypoxic-ischaemic encephalopathy.

Study objective

In the present proposal, we aim to answer whether antenatal allopurinol administration does reduce hypoxic-ischaemic encephalopathy in neonates exposed

to intra-uterine asphyxia.

Study design

Randomised double blind placebo controlled multicenter study.

Intervention

Allopurinol or placebo administration antenatally to the mother.

Study burden and risks

Up to this day no maternal nor neonatal adverse events are being reported after using a dose of allopurinol as used in our study (i.e. 500 mg i.v.). The risks for complications due to treatment with allopurinol is very low whereas the possible benefits of treatment with allopurinol regarding neuronal damage seem to be reasonable.
Studied newborns shall only be admitted when clinically indicated. Bloodsamples will only be obtained during clinically indicated blood withdrawls. Therefore no extra invasive procedures will be necessary.

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adults (18-64 years)
Children (2-11 years)
Elderly (65 years and older)

Inclusion criteria

Pregnant women with a gestational age of at least 36 weeks, suspicion of fetal distress / intra-uterine asphyxia

Exclusion criteria

Congenital, chromosomal or syndromal malformations.

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:	Recruitment stopped
Start date (anticipated):	15-10-2009
Enrollment:	220
Type:	Actual

Medical products/devices used

Product type:	Medicine
Brand name:	Acepurin
Generic name:	Allopurinol
Registration:	Yes - NL outside intended use

Ethics review

Approved WMO Date:	09-07-2009
Application type:	First submission
Review commission:	CCMO: Centrale Commissie Mensgebonden Onderzoek (Den Haag)
Approved WMO Date:	21-07-2009
Application type:	First submission
Review commission:	CCMO: Centrale Commissie Mensgebonden Onderzoek (Den Haag)
Approved WMO Date:	12-11-2009
Application type:	Amendment
Review commission:	CCMO: Centrale Commissie Mensgebonden Onderzoek (Den Haag)
Approved WMO Date:	08-02-2010
Application type:	Amendment
Review commission:	CCMO: Centrale Commissie Mensgebonden Onderzoek (Den Haag)
Approved WMO Date:	16-02-2010
Application type:	Amendment
Review commission:	CCMO: Centrale Commissie Mensgebonden Onderzoek (Den Haag)
Approved WMO Date:	08-03-2010
Application type:	Amendment

Review commission:	CCMO: Centrale Commissie Mensgebonden Onderzoek (Den Haag)
Approved WMO Date:	30-03-2010
Application type:	Amendment
Review commission:	CCMO: Centrale Commissie Mensgebonden Onderzoek (Den Haag)
Approved WMO Date:	15-04-2010
Application type:	Amendment
Review commission:	CCMO: Centrale Commissie Mensgebonden Onderzoek (Den Haag)
Approved WMO Date:	17-06-2010
Application type:	Amendment
Review commission:	CCMO: Centrale Commissie Mensgebonden Onderzoek (Den Haag)
Approved WMO Date:	06-07-2010
Application type:	Amendment
Review commission:	CCMO: Centrale Commissie Mensgebonden Onderzoek (Den Haag)
Approved WMO Date:	21-11-2011
Application type:	Amendment
Review commission:	CCMO: Centrale Commissie Mensgebonden Onderzoek (Den Haag)
Approved WMO Date:	19-12-2011
Application type:	Amendment
Review commission:	CCMO: Centrale Commissie Mensgebonden Onderzoek (Den Haag)

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: 28692
Source: Nationaal Trial Register
Title:

In other registers

Register	ID
EudraCT	EUCTR2006-005796-18-NL
ClinicalTrials.gov	NCT00189007
CCMO	NL26516.000.09
OMON	NL-OMON28692