Pentoxifylline in neonatal sepsis

No registrations found.

Ethical review	Positive opinion
Status	Pending
Health condition type	-
Study type	Interventional

Summary

ID

NL-OMON24635

Source
NTR

Brief title
PTX-trial

Health condition

Late onset neonatal sepsis

Sponsors and support

Primary sponsor: Erasmus Medical Center
Source(s) of monetary or material Support: ZonMW

Intervention

Outcome measures

Primary outcome

The primary outcome is the optimal dose of PTX in preterm neonates suffering from late onset sepsis. Dose optimisation will be based on the clinical and biochemical (CRP, IL-6, PCT, TNF-a) response 3 days after start of PTX therapy and on side effects.

Secondary outcome

Secondary study parameters include the evaluation of longitudinally determined 91

inflammatory markers (Olink proteomics) and metabolomics of the whole inflammatory panel, to further understand the inflammatory and immunological changes of preterm infants during sepsis with PTX treatment and the pharmacokinetics of PTX and its metabolites in preterm infants. A target concentration will be calculated

Study description

Background summary

Sepsis is a very important cause of death and morbidity in preterm infants. There are strong indications that preterm neonates with sepsis could benefit, next to antibiotics, from treatment with pentoxifylline (PTX). Knowledge about optimal dosing is however limited.

This study is a dose optimization study in preterm born infants with late onset sepsis and increased inflammation. In this study different dosages of pentoxifylline will be evaluated, with dosage step-up and step-down in every 3 patients. The starting dose will be the dose as described in all previous studies (5 mg/kg/h for 6 hours every 24 hours). The decision whether to increase or decrease the dosage will be made on a decision rule, balancing risks (safety and tolerability) and benefits (reduced inflammation and clinical improvement) of PTX on neonatal sepsis. Previous clinical studies have already indicated the safety of the drug in preterm infants.

The investigators expect that around 30 included neonates are needed to determine the optimal dose using this study design. Subsequently, the optimal dose will be prospectively validated in 10 preterm neonates.

Study objective

There is strong indications that preterm neonates with sepsis could benefit, next to antibiotics, from treatment with PTX. PTX is already used in preterm neonates with sepsis. Knowledge about optimal dosing is however limited. With this study we aim to find to optimal dose of PTX in preterm neonatal sepsis.

Study design

The primary endpoint will be assesed at 3 days after start of PTX therapy.

Intervention

intravenously administered pentoxifylline

Contacts

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Eligibility criteria

Inclusion criteria

- Neonates with gestational age <30 weeks
- suspected of late onset sepsis with blood drawn for blood culture and inflammatory biomarkers
- IL-6 >500 pg/mL or CRP >50 mg/L at onset

Exclusion criteria

- PTX therapy cannot be started within 24 hours of start of antibiotic treatment.
- Patients with major congenital defects (e.g. congenital heart disease, pulmonary, or gastrointestinal anomalies) will also be excluded.
- If subjects have IL-6 values exceeding 25000 pg/mL at time of onset they will also be excluded. High IL-6 values represent severe episodes of sepsis and high IL-6 values are associated with high mortality rates.
- Patients who already participated in this trial during an earlier episode of late onset sepsis.
- pH below 7 in two consecutive blood samples, with at least 1 hour between the blood samples, at onset of sepsis

Study design

Design

Study type:	Interventional
Intervention model:	Other
Allocation:	Non controlled trial
Masking:	Open (masking not used)
Control:	N/A , unknown

Recruitment

NL

Recruitment status:	Pending
Start date (anticipated):	03-09-2019
Enrollment:	40
Type:	Anticipated

IPD sharing statement

Plan to share IPD: Yes

Plan description
We have made a Data management plan in DMPonline in collaboration with our datamanager Dr. A Ham.

We plan to publish in an open access journal There is a management plan considering making data findable, accessible and intraoperable and reusable.

Ethics review

Positive opinion

Date:	08-07-2019
Application type:	First submission

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

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

No registrations found.

In other registers

Register	ID
NTR-new	NL7856
Other	METC EMC : OZBS32.18194

Study results