Complement Inhibition: Attacking the Overshooting Inflammation @fter Traumatic Brain Injury

No registrations found.

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

Summary

ID

NL-OMON29423

Source
Nationaal Trial Register

Brief title
CIAO@TBI

Health condition

Traumatic Brain Injury

Sponsors and support

Primary sponsor: Leiden University Medical Center
Source(s) of monetary or material Support: Dutch Brain Foundation and Takeda Pharmaceutical Company

Intervention

Outcome measures

Primary outcome

Efficacy: Therapy Intensity Level (TIL) scale and GOS-E at 6 months

Safety: Complication rate

Secondary outcome

- ICP burden
- CT scan midline shift
- Mortality
- Neurological damage markers in the blood using BANYAN biomarker assay
- Complement activity (WIESLAB, C3b/C, C4b/C, C5b-9 ELISA and CH50/AC50 essay)
- Gene expression profiling of blood cells
- ICU and hospital length of stay
- Ventilator days
- Hospital disposition
- GOS-E at 3 and 12 months
- QoLiBri at 3, 6 and 12 months
- SF 36 at 3, 6 and 12 months
- EQ-5D-5L at 3, 6 and 12 months
- Cost-effectiveness

Study description

Background summary

Severe Traumatic Brain Injury (s-TBI) is a major cause of death and disability across all ages. Besides the primary impact, the pathophysiologic process of major secondary brain damage consists of a neuroinflammation response that critically leads to irreversible brain damage in the first days after the trauma. A key catalyst in this inflammatory process is the complement system. Inhibiting the complement system is therefore considered to be a potentially important new treatment for TBI, as has been shown in animal studies. Therefore, this trial aims to study the safety and efficacy of C1-inhibitor Cinryze, an approved inhibitor of the complement system, compared to placebo in patients with s-TBI. By temporarily blocking the complement system we hypothesize limitation of secondary brain injury and more favourable clinical outcome for TBI patients due to a decrease in the posttraumatic neuroinflammatory response.

Study objective

The hypothesis is that random assignment to C1-INH in patients with moderate and severe TBI will experience a reduction in ICP directed therapy intensity levels (TIL) compared to random assignment to placebo (difference of 2.2). Secondary, if efficacy is proven on the TIL scale, a difference of the GOSE at six months will be evaluated. Furthermore, no difference should be detected in complication rate during hospitalization between the two groups.

Study design

Hospital admission, hospital discharge, 3, 6 and 12 months follow-up

Intervention

(1) 6000 IU C1-INH intravenously
(2) Placebo 0.9% saline

Contacts

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Eligibility criteria

Inclusion criteria

- Age at admission ≥ 18 years and < 65 years;
- Clinical diagnosis of traumatic brain injury with GCS < 13 (with intracranial deviations);
- Catheter placement for monitoring and management of increased ICP for at least 24 hours.

Exclusion criteria

- A clear, non-traumatic cause of low GCS (e.g. toxic, cardial) on admission;
- Not expected to survive more than 24 hours after admission;
- Brain death on arrival in the participating centres;
- Severe pre-trauma disability, defined as being dependent on other people;
- Known prior history of sensibility to blood products or Cinryze;
- Patients with a history of hereditary angioedema;
- Patients with a history of thrombosis;

- Pregnant women.

Study design

Design

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

Recruitment

NL

Recruitment status:	Pending
Start date (anticipated):	01-11-2020
Enrollment:	106
Type:	Anticipated

IPD sharing statement

Plan to share IPD: Undecided

Plan description
N/A

Ethics review

Positive opinion

Date:	17-02-2020
Application type:	First submission

Study registrations

Followed up by the following (possibly more current) registration

ID: 52831
Bron: ToetsingOnline
Titel:

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

No registrations found.

In other registers

Register	ID
NTR-new	NL8387
CCMO	NL72551.058.20
OMON	NL-OMON52831

Study results

Summary results
N/A