

# Prospective, multicentre, randomised, double-blinded and placebo-controlled clinical trial on the efficacy and safety of clonidine as a co-medication in analgesia and sedation of long-term-ventilated neonates and infants

<b>Submission date</b> 10/07/2003	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
<b>Registration date</b> 20/01/2004	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
<b>Last Edited</b> 07/04/2015	<b>Condition category</b> Neonatal Diseases	<input type="checkbox"/> Individual participant data

**Plain English summary of protocol**  
Not provided at time of registration

## Contact information

**Type(s)**  
Scientific

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## Additional identifiers

**EudraCT/CTIS number**

**IRAS number**

**ClinicalTrials.gov number**

**Secondary identifying numbers**

N/A

## Study information

### Scientific Title

Prospective, multicentre, randomised, double-blinded and placebo-controlled clinical trial on the efficacy and safety of clonidine as a co-medication in analgesia and sedation of long-term-ventilated neonates and infants

### Study objectives

PAED-Net (P-N) is a corporation of clinical trial coordination centers (KKS) with specific paediatric sections at 6 German universities. The coordinating center of P-N is located at the KKS in Mainz (Prof. Dr. F. Zepp). The intention of P-N is to improve pharmacological trials in childhood according to GCP/ICH. The proposed study is financed by the BMBF with the aim to demonstrate the successful cooperation of the P-N.

Scientific background: A long-term mechanical ventilation of neonates and infants under medical and ethical aspects is only possible with adequate analgesia and sedation usually by opioids, barbiturates and benzodiazepines. The use of these agents can be complicated by adverse events, tolerance and physical dependence. Clonidine (C) is a centrally acting  $\alpha_2$ -agonist with analgesic and hypnotic properties. By a sympatholysis, C suppresses physical withdrawal-symptoms. There is preliminary data showing a possible benefit of C in reducing the dosage of opioids and other centrally-acting agents as well as in reducing the withdrawal-symptoms after cessation of these agents [1]. Preliminary data exists, demonstrating cardiovascular stability in children undergoing heart-surgery and receiving C ( $1 \mu\text{g/kg/h}$ ) [2].

Aim: Reduction of the consumption of fentanyl, midazolam and thiopentone ( $\text{mg/kg}$ ) beginning with infusion of C or placebo (4th day of ventilation) over 3 days. Reduction of withdrawal-symptoms. Pharmacokinetics of C.

### Ethics approval required

Old ethics approval format

### Ethics approval(s)

Not provided at time of registration.

### Study design

Multicentre randomised double-blind placebo-controlled trial

### Primary study design

Interventional

### Secondary study design

Randomised controlled trial

### Study setting(s)

Hospital

### Study type(s)

Treatment

### Participant information sheet

**Health condition(s) or problem(s) studied**

Long-term ventilated infants

**Interventions**

Clonidine (1 µg/kg/h) or placebo is given with the 4th day of ventilation. Analgesics and sedatives are fentanyl, midazolame and thiopentone.

Following cessation of analgesics and sedatives, clonidine is reduced stepwise.

**Intervention Type**

Drug

**Phase**

Not Applicable

**Drug/device/biological/vaccine name(s)**

Clonidine, fentanyl, midazolame and thiopentone

**Primary outcome measure**

A positive confirmation of the hypothesis can lead to an extension of the licensing of C by the manufacturer. Implementation of C in the therapy of long-term ventilated newborns and infants by implementation of the results in the guidelines of the medical societies is desirable. A successful performance of the study is intended to ameliorate the situation of pharmacological trials in childhood in Germany by extension of the infrastructure of the P-N.

**Secondary outcome measures**

Not provided at time of registration.

**Overall study start date**

31/07/2003

**Completion date**

31/12/2006

**Eligibility****Key inclusion criteria**

Term-newborns, infants ≤24th month of life. Expected duration of ventilation: 6 days.

**Participant type(s)**

Patient

**Age group**

Neonate

**Sex**

Both

**Target number of participants**

210

## **Key exclusion criteria**

1. Any contraindication to clonidine application:
  - 1.1 Hypotone, catecholamine and volume-refractory circulation problems
  - 1.2 Dysfunction of cardiac excitation, like atrioventricular blocks second and third degree, sick sinus syndrome
  - 1.3 Relevant circulation-effective bradycardias
  - 1.4 Hypersensitivity against clonidine or any other component of the drug
2. Any circumstances, which make the evaluation of pain sensation impossible (for example coma, severe brain injury, hypoxic-ischemic brain injury, neurological or neuromuscular illnesses, application of muscle relaxants (except short-time application for intubation and application at the first day of ventilation)
3. Newborns: anamnestic evidence for drug abuse of the mother (for example psychopharmaca, opioids)

## **Date of first enrolment**

31/07/2003

## **Date of final enrolment**

31/12/2006

## **Locations**

### **Countries of recruitment**

Germany

### **Study participating centre**

University Hospital of Cologne

Cologne

Germany

50931

## **Sponsor information**

### **Organisation**

University Hospital of Cologne (Germany)

### **Sponsor details**

Joseph-Stelzmann-Str. 9

Cologne

Germany

50931

### **Sponsor type**

Hospital/treatment centre

**ROR**

<https://ror.org/05mxhda18>

## **Funder(s)**

**Funder type**

Industry

**Funder Name**

Federal Ministry of Education and Research (Germany)

**Alternative Name(s)**

Federal Ministry of Education and Research, BMBF

**Funding Body Type**

Government organisation

**Funding Body Subtype**

National government

**Location**

Germany

**Funder Name**

Boehringer Ingelheim (Germany)

**Alternative Name(s)**

Boehringer Ingelheim Pharmaceuticals, Inc., Boehringer Ingelheim International GmbH, BI, BIPI

**Funding Body Type**

Private sector organisation

**Funding Body Subtype**

For-profit companies (industry)

**Location**

United States of America

## **Results and Publications**

**Publication and dissemination plan**

Not provided at time of registration

**Intention to publish date**

**Individual participant data (IPD) sharing plan**

**IPD sharing plan summary**

Not provided at time of registration

**Study outputs**

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Results article</a>	results	01/07/2014		Yes	No