The HEPALI Study

No registrations found.

Ethical review	Not applicable
Status	Recruiting
Health condition type	-
Study type	Interventional

Summary

ID

NL-OMON28056

Source
NTR

Brief title
HEPALI

Health condition

1. Acute Lung Injury;

2. Acute Respiratory Distress Syndrome.

Sponsors and support

Source(s) of monetary or material Support: Self funding research.

Intervention

Outcome measures

Primary outcome

1. TATc in BAL fluid;

2. PLI.

Secondary outcome

1. LIS;

2. In blood: TF, TFPI activity, TFPI antigen, Factor VII/VIIa, protein C / activated protein C, prothrombin fragment 1.2, TATc, endogenous thrombin potential, fibrin monomers, soluble thrombomodulin, PAPc, PAI;

3. In BAL fluid: TF, TFPI activity, TFPI antigen, Factor VII/VIIa, protein C / activated protein C, prothrombin fragment 1.2, TATc, endogenous thrombin potential, fibrin monomers, soluble thrombomodulin, PAPc, PAI;

4. Occurrence and severity of bleeding events.

Study description

Background summary

Introduction

Acute lung injury (ALI) and acute respiratory distress syndrome (ARDS) are potentially lethal conditions, responsible for a considerable amount of admissions to the Intensive Care Unit (ICU) and for which, at present, only supportive care is available.

Pulmonary edema, as a result of increased pulmonary vascular permeability caused by proinflammatory changes, together with pulmonary coagulopathy, resulting in alveolar fibrin deposition and disturbed fibrin turnover, are the hallmarks of ALI/ARDS. The alveolar fibrin deposition is in part comparable to the intravascular deposition of fibrin in patients with sepsis and disseminated intravascular coagulation and may be aggravated by mechanical ventilation.

Based on a substantial body of evidence, both in vitro and in vivo, there is rationale to intervene in the pulmonary coagulopathy with anticoagulants in general, and with heparin in particular, in order to attenuate lung injury. Delivering heparin directly into the pulmonary compartment may attenuate fibrin depositions more effectively than systemic administration of heparin, while reducing the risk of bleeding as a result of systemic anticoagulant effects. In sheep, nebulization of heparin has been found to be beneficial. Furthermore, the nebulization of heparin to the lower respiratory tract is feasible and safe. In pediatric patients with inhalation injuries, heparin nebulization significantly reduced mortality.

With a bedside radionuclide method the pulmonary leak index (PLI) can be obtained as a measure of vascular leakage. The PLI is an ideal instrument to measure effects of therapy on pulmonary vascular leakage, since serial measurements can be performed.
Hence, nebulization of heparin may have a beneficial effect on pulmonary coagulopathy and may subsequently decrease pulmonary vascular permeability.

Study design

In a prospective, open-label, placebo controlled, randomised clinical trial we will evaluate the effects of heparin nebulization in mechanically ventilated patients with ALI/ARDS.

Objectives

1. To determine whether nebulization of heparin decreases coagulation activation in the pulmonary compartment (i.e. BAL fluid);

2. to determine whether nebulization of heparin decreases pulmonary vascular permeability.

Study objective

Nebulization of heparin will have a beneficial effect on pulmonary coagulopathy, reflected in reduction of pulmonary coagulation activation in the broncho-alveolar lavage fluid, and will decrease pulmonary vascular permeability reflected in a reduction of the PLI.

Study design

N/A

Intervention

Nebulization of heparin (100,000 IU) or placebo every 8 hrs during 24 hrs. Before the first and after the last nebulization bronchoscopy will be performed to obtain bronchoalveolar lavage fluid of both the affected and the non-affected lung. At the same time measurement of the PLI will be performed.

Contacts

Public
De Boelelaan 1117, kamer ZH 7D112

A.D. Cornet
Amsterdam 1081 HV
The Netherlands
Scientific
De Boelelaan 1117, kamer ZH 7D112

A.D. Cornet
Amsterdam 1081 HV
The Netherlands

Eligibility criteria

Inclusion criteria

Inclusion criteria
All patients being intubated and mechanically ventilated in the ICU, who meet the International Consensus Criteria of ALI or ARDS:

1. Informed consent;

2. Age: 18-80 years;

3. Recent onset of ALI or ARDS (i.e. <48 hrs).

Exclusion criteria

1. Acute bleeding at any site;

2. Increased risk of bleeding:

Thrombocytes < 50 x 109/L

aPTT > 60 sec

PT > 20 sec, or INR > 1.7;

3. Within 24 hours after major surgery;

4. Proven or clinically suspected heparin induced thrombocytopenia;

5. Hemorrhagic diathesis;

6. Heparin allergy;

7. Pregnancy or breast feeding.

Study design

Design

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

Recruitment

NL

Recruitment status:	Recruiting
Start date (anticipated):	01-01-2008
Enrollment:	28
Type:	Anticipated

Ethics review

Not applicable

Application type:	Not applicable

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	NL1076
NTR-old	NTR1109

Register	ID
Other	VU medical center : N/A
ISRCTN	ISRCTN wordt niet meer aangevraagd

Study results

Summary results
N/A