Alkaline phosphatase for reducing systemic inflammatory response syndrome (SIRS) in patients with Sars-CoV-2 infection and acute respiratory insufficiency (COVID 19)

No registrations found.

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

Summary

ID

NL-OMON22695

Source
NTR

Brief title
COVID-RESCAP

Health condition

COVID-19

Sponsors and support

Primary sponsor: Rode Kruis ziekenhuis Beverwijk
Source(s) of monetary or material Support: NONE

Intervention

Outcome measures

Primary outcome

Duration of mechanical ventilation

Secondary outcome

(1) ICU Mortality
(2) Number (%) of patients with acute kidney injury (AKI) stage 2/3 (KDIGO criteria)
(3) Number (%) of ventilated patients
(4) Number (%) of patients in need for reintubation
(5) Safety (according to chapter 8)
(6) Values of inflammatory markers (e.g. macrophages, neutrophils, lymphocytes and their inflammatory products (TNF-α, IL-6, IL-8, IL-10))

Study description

Background summary

Our hypothesis is that critical ill COVID-19 patients suffer more from their own immune response against the virus, than from the viral infection itself. Alkaline phosphatase (RESCAP®) has proven to reduce SIRS reactions by neutralizing the inflammatory response in various medical conditions, like sepsis induced acute kidney injury and ischemia-reperfusion reactions in cardiothoracic surgery. Furthermore, endogenous alkaline phosphatase (AP) is highly expressed on type II lung alveolar (surfactant producing) cells and is thought to stabilize the alveolar barrier. In acute inflammation, endogenous AP is lost from the cells after binding to its substrate. Replenishing AP might restore the alveolar barrier and combat subsequent SIRS and secondary organ failure.

The objective is to assess the safety and preliminary efficacy of AP in reducing the inflammatory reaction in COVID-19 patients and thereby shorten time on mechanical ventilation or prevent the need for mechanical ventilation in COVID-19 patients.

This will be done in a randomised multicentre prospective interventional clinical trial.

All COVID-19 patients with an indication for admittance to the ICU department will be included and will (after informed consent) be rondomised to receive a bolus of alkaline phosphatase of 1000iU, followed by 9000 iU the same day. For the 3 consecutive days 10.000iU/day on top of regular care.

Main study parameters/endpoints:
(1) Duration of mechanical ventilation
(2) ICU mortality
(3) Number (%) of patients with acute kidney injury (AKI) stage 2/3 (KDIGO)
(4) Concentration of pro-inflammatory cytokines

Study objective

Our hypothesis is that critical ill COVID-19 patients suffer more from their own immune response against the virus, than from the viral infection itself. Alkaline phosphatase (RESCAP®) has proven to reduce SIRS reactions by neutralizing the inflammatory response in various medical conditions, like sepsis induced acute kidney injury and ischemia-reperfusion reactions in cardiothoracic surgery. Furthermore, endogenous alkaline phosphatase (AP) is highly expressed on type II lung alveolar (surfactant producing) cells and is thought to stabilize the alveolar barrier. In acute inflammation, endogenous AP is lost from the cells after binding to its substrate. Replenishing AP might restore the alveolar barrier and combat subsequent SIRS and secondary organ failure.

Study design

1 year

Intervention

All COVID-19 patients with an indication for admittance to the ICU department will be included and will (after informed consent) be rondomised to receive a bolus of alkaline phosphatase of 1000iU, followed by 9000 iU the same day. For the 3 consecutive days 10.000iU/day on top of regular care.

Contacts

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Eligibility criteria

Inclusion criteria

Patients with proved or considered Sars-CoV-2 infection admitted to the ICU with type 1 or 2 respiratory failure despite supplemental oxygen.

Sars-CoV-2 infection based on: highly clinical suspicion on admission and/or positive PCR test on nasopharynx swab or sputum and/or a CT imaging of the chest compatible with COVID-19 + type 1 or type 2 respiratory failure despite supplemental oxygen that indicates airway support/ICU admittance and meeting any of the following criteria: .
- SpO2 <90% or PaO2 < 60 mmHg despite FiO2 >60%
- Clinical evidence of respiratory distress (RR > 25 breaths/minute)
- Respiratory acidosis (pH< 7.35)

Exclusion criteria

- Inclusion in another interventional clinical trial
- Age < 18
- Age > 80
- Patients who are pregnant or lactating
- Patients expected to have fatal disease within 24 hours
- Patients who are already on dialysis (Renal Replacement Therapy, RRT) or a decision has been made to initiate RRT within 24 hours after planned start of study drug administration
- Patients who have advanced chronic liver disease confirmed by a Child-Pugh C
- Patients who are having an known history of immune system that has been impaired by disease, such as patients with HIV and with a CD4 count of less than 200 cells/mm, neutropenic patients (<0.5 x 109/l) or medical treatment with immunosuppressive effects
- Patients with active haematological malignancy

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):	13-07-2020
Enrollment:	124

Type: Anticipated

IPD sharing statement

Plan to share IPD: Undecided

Ethics review

Positive opinion
Date: 02-05-2020

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	NL8578
Other	METC VUMC : METC2020248

Study results