Obesity and COVID-19: AdipoSe TissuE Responses to SARS-CoV-2 infection

No registrations found.

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

Summary

ID

NL-OMON24411

Source Nationaal Trial Register

Brief title COVID-ASTER

Health condition

COVID-19

Sponsors and support

Primary sponsor: UMCG **Source(s) of monetary or material Support:** ZonMw

Intervention

Outcome measures

Primary outcome

Visceral and subcutaneous adipose tissue susceptibility and permissiveness to SARS-CoV-2 infection.

Secondary outcome

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The response of adipose tissue-derived factors on epithelial/endothelial cell behaviour?

Study description

Background summary

Most of the SARS-CoV-2 infected patients admitted to the ICU with respiratory failure had central obesity, extensive visceral fat and a Body Mass Index (BMI) of 25 kg/m2 or higher (mean 30 kg/m2). Recent findings from the UK, in the largest cohort study to date, confirm that the likelihood of hospital death due to SARS-CoV-2 is associated with obesity severity. Circulating adipose tissue (AT)-derived mediators such as leptin are known to be associated with BMI and are known to have immunomodulating properties which may prime obese individuals to infection resulting in an exaggerated response. We therefore postulate that excess adipose tissue, its distribution and secreted mediators play an important role in the type of immune response and subsequently in the progression towards respiratory insufficiency in patients with SARS-CoV-2.

Study objective

We hypothesize that excess adipose tissue, its distribution and secreted mediators play an important role in the type of immune response and subsequently in the progression towards respiratory insufficiency in COVID-19 patients.

Study design

2 adipose tissue samples during surgery of the patient (bariatric surgery) and 1 adipose tissue sample from lean individuals undergoing abdominal surgery

Intervention

We will collect human visceral and subcutaneous adipose tissue samples in order to investigate the adipose tissue responses to ex vivo SARS-CoV-2 infection. Small adipose tissue samples (subcutaneous and visceral) will be collected from patients undergoing either bariatric surgery (obese) or elective abdominal surgery (visceral only) (lean).

Contacts

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Eligibility criteria

Inclusion criteria

Obese: Healthy participants, male and female aged between 18-65years old with a BMI>40. Lean: Healthy participants, male and female aged between 18-65years old with a BMI<25.

Exclusion criteria

Diabetes mellitus, hypertension, metabolic syndrome, asthma, immune disease such as Crohn colitis, rheumatic disease, cancer, use of soft/hard drugs or smoking. Previous COVID-19 infection.

Study design

Design

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

Recruitment

NL	
Recruitment status:	Recruiting
Start date (anticipated):	23-12-2020
Enrollment:	36

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Type:

Anticipated

IPD sharing statement

Plan to share IPD: Undecided

Plan description N/A

Ethics review

Positive opinion	
Date:	23-12-2020
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 NTR-new Other ID NL9141 METC UMCG : 202000929

Study results