The effect of antibiotics and the gut flora on the immune system.

No registrations found.

Ethical review	Positive opinion
Status	Recruitment stopped
Health condition type	-
Study type	Interventional

Summary

ID

NL-OMON27808

Source
NTR

Brief title
MISSION-1

Health condition

sepsis, gut flora depletion, systemic immune response

Sponsors and support

Primary sponsor: Academisch Medisch Centrum, Amsterdam
Source(s) of monetary or material Support: ZonMW grant

Intervention

Outcome measures

Primary outcome

Side effects, laboratory measurements, functional assays and microbiota composition.

1. Side effects will be registered using a graded scale;

2. A HITchip (16S rRNA) analysis to determine microbiome composition;

3. Laboratory measurements: include inflammatory markers, neutrophil activation and -degranulation;

4. Functional assays: ex vivo stimulation of blood cells with nosocomial pathogens.

Secondary outcome

N/A

Study description

Background summary

Objective:

To investigate the role of the gut microbiota in the systemic priming of immune effector cells.

Study design:

Within-subject-controlled intervention study in human volunteers.

Study population:

Twelve healthy male subjects, 18-35 years of age.

Intervention:

All subjects will be treated with broad spectrum antibiotics (ciprofloxacin, vancomycin, metronidazole) for seven days, in order to deplete the gut microbiota. Blood and faeces will be sampled before, 24 hours and 6 weeks after the 7-day period of antibiotics.

Main study endpoints:

Laboratory parameters for inflammatory responses, functional assays (ex vivo stimulation

assay) and gut microbiota composition.

Study objective

Depletion of the gut microbiota by antibiotics leads to accelerated immunosuppression during sepsis, caused by decreased release of microorganism associated molecular patterns (MAMPs) and other microbiota derived products into the circulation and diminished priming of bone marrow neutrophils.

Study design

T=0, day 8, week 7.

Intervention

All volunteers will self-administer the following antibiotics for 7 consecutive days (concomitantly):

1. Vancomycin 250mg 3dd2;

2. Ciprofloxacin 500mg 2dd1;

3. Metronidazol 500mg 3dd1.

Contacts

Public
CEMM, Department of Internal Medicine
Academic Medical Center
University of Amsterdam
Meibergdreef 9
J.M. Lankelma
Amsterdam 1105 AZ
The Netherlands
+31 (0)20 5665247
Scientific
CEMM, Department of Internal Medicine
Academic Medical Center
University of Amsterdam
Meibergdreef 9
J.M. Lankelma
Amsterdam 1105 AZ
The Netherlands
+31 (0)20 5665247

Eligibility criteria

Inclusion criteria

1. Healthy;

2. Male between 18 and 35 years of age;

3. Capable of giving written informed consent and able to comply with the requirements and restrictions;

4. Chemistry panel without any clinically relevant abnormality;

5. Normal defecation pattern (defined as <3x/ day and >3x/week).

Exclusion criteria

1. Major illness in the past 3 months or significant chronic medical illness;

2. History of any type of malignancy;

3. Past or current gastrointestinal disease which may influence the gut microbiota;

4. Known positive test for hepatitis C antibody, hepatitis B surface antigen or HIV;

5. Current or chronic history of liver disease, or known hepatic or biliary abnormalities;

6. Use of tobacco products;

7. History, within 3 years, of drug abuse;

8. History of alcoholism and/or drinking more than 3 units of alcohol per day;

9. The subject has received an investigational product within three months of day 1;

10. Use of prescription or non-prescription drugs and herbal and dietary supplements within 6 months;

11. Recent (< 12 months) use of antibiotics (any kind, except for dermal antibiotics);

12. Allergy to antibiotics (any kind);

13. Difficulty swallowing pills;

14. Any other relevant issue.

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:	Recruitment stopped
Start date (anticipated):	15-01-2013
Enrollment:	12
Type:	Actual

Ethics review

Positive opinion

Date:	25-09-2012
Application type:	First submission

Study registrations

Followed up by the following (possibly more current) registration

ID: 36859
Bron: ToetsingOnline
Titel:

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

No registrations found.

In other registers

Register	ID
NTR-new	NL3336
NTR-old	NTR3629
CCMO	NL42072.018.12
ISRCTN	ISRCTN wordt niet meer aangevraagd.
OMON	NL-OMON36859

Study results

Summary results
N/A