Anti TNF therapy and susceptibility for Coxiella burnetii infection

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1. To determine, in patients treated with TNF α blockers and living in the Q-fever endemic area, the prevalence of antibodies against C. burnetii and the prevalence of chronic Q fever.2. To assess other determinants in this group of patients which...

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Autoimmune disorders
Study type	Observational invasive

Summary

ID

NL-OMON35680

Source
ToetsingOnline

Brief title
Anti TNF therapy and susceptibility for Coxiella burnetii infection

Condition

- Autoimmune disorders
- Bacterial infectious disorders

Synonym
Coxiella burnetii infection, Q fever

Research involving
Human

Sponsors and support

Primary sponsor: Universitair Medisch Centrum Sint Radboud
Source(s) of monetary or material Support: ZonMw

Intervention

Keyword: anti TNF therapy, Coxiella burnetii, Q fever, susceptibility

Outcome measures

Primary outcome

Serology indicative of chronic Q fever or past Q fever infection.

In-vitro cytokine production and/or monocyte/macrophage polarisation.

The presence of genetic polymorphisms in genes involved in the innate immunity.

Secondary outcome

geen

Study description

Background summary

From 2007 on 4000 cases of acute Q fever are reported. As acute Q fever is often asymptomatic, the actual number of people infected with Coxiella burnetii is expected to much higher. 1-5% develops chronic Q fever, of which endocarditis and vascular (graft) infections are the most common manifestations. Morbidity and mortality are high, if left untreated. It is stated that immunocompromised patients are at elevated risk for the development of chronic Q fever, although this disease entity was not well defined and statistical evidence is lacking. The risk of rheumatoid arthritis (RA), arthritis psoriatica or Bechterew disease, and the use of TNF-alpha blockers in particular, for the development of chronic Q fever is not assessed. Although in-vitro studies have been controversial about the role of TNF-alpha, the hypothesis is that TNF-alpha blockers increase the risk of development of chronic Q fever.

Study objective

1. To determine, in patients treated with TNF α blockers and living in the Q-fever endemic area, the prevalence of antibodies against C. burnetii and the prevalence of chronic Q fever.
2. To assess other determinants in this group of patients which predispose to chronic Q fever disease.
3. To assess, in a subset of patients treated with anti-TNFα blockers, the

influence of this therapy on the production of cytokines by white blood cells exposed to C. burnetii.
4. To assess, in a subset of patients treated with TNF α blockers, the influence of this therapy on monocyte/macrophage function reflected by macrophage polarization and cytokine production upon exposure to C. burnetii.
5. To determine whether positive serology or the serology proving chronic Q-fever is associated with the presence of genetic polymorphisms influencing the immune response towards C. burnetii.

Study design

1. Observational, case- control, case-finding study
2. In-vitro laboratory study
3. Genetic analysis

Study burden and risks

All participant are asked for blood samples and to fill in a questionnaire and an informed consent form for the Q fever screening and the genetic part of the research. In a subset of patients (n=24) an extra blood sample will be asked for the in-vitro tests.
Possible benefit is early detection of chronic Q fever, with the possibility to prevent severe morbidity and mortality.

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adults (18-64 years)
Elderly (65 years and older)

Inclusion criteria

• Diagnosis of either rheumatoid arthritis (RA), arthritis psoriatica or bechterew disease
• Residence in Q fever endemic area (defined by the Institute for Public Health and Environment (RIVM) as *core area*), as determined by the postal code of their home address.
• Signed written informed consent ;For patients on anti-TNF therapy:
• Treatment with TNFα blockers either infliximab, etanercept or adalimumab in an adequate dose according to the guidelines
• Treatment with TNFα blockers is started before 01-01-2011 ;For patients not receiving anti-TNF therapy:
• Treatment with DMARDs
• No history of treatment with TNFα blockers

Exclusion criteria

• Age under 18 years
• Pregnancy or lactation
• Lymphoma, lymphoproliferative syndromes and other hematologic malignancies
• Chronic infections, including HIV, hepatitis B or C, mycobacterial disease

Study design

Design

Study type:	Observational invasive
Intervention model:	Other
Allocation:	Non-randomized controlled trial
Masking:	Open (masking not used)

Control:	Active
Primary purpose:	Basic science

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	05-12-2011
Enrollment:	800
Type:	Actual

Ethics review

Approved WMO Date:	06-09-2011
Application type:	First submission
Review commission:	CMO regio Arnhem-Nijmegen (Nijmegen)
Approved WMO Date:	30-03-2012
Application type:	Amendment
Review commission:	CMO regio Arnhem-Nijmegen (Nijmegen)
Approved WMO Date:	26-04-2012
Application type:	Amendment
Review commission:	CMO regio Arnhem-Nijmegen (Nijmegen)

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
CCMO	NL37466.091.11