

# The effect of treatment of periodontitis on markers of cardiovascular diseases

<b>Submission date</b> 20/08/2013	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
<b>Registration date</b> 25/09/2013	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
<b>Last Edited</b> 29/01/2019	<b>Condition category</b> Oral Health	<input type="checkbox"/> Individual participant data

## Plain English summary of protocol

### Background and study aims

There is scientific evidence which supports a relationship between periodontitis (gum disease) and heart disease and metabolic syndrome (MS) (a combination of diabetes, high blood pressure and obesity). There is also proof which shows that standard non-surgical treatment of periodontitis (scaling and root planing) has an effect on markers of heart disease and MS. The main aim of our study is find out whether standard non-surgical treatment has an effect at longer follow-up (12 months) on markers of heart disease and MS. The study also aims to compare four different non-surgical treatment methods of periodontitis in relation to the effect on markers of heart disease and MS.

### Who can participate?

Healthy patients, over 19 years old, who are affected by moderate to severe periodontitis who are referred for treatment to the Department of Periodontology of the Academic Centre for Dentistry Amsterdam (ACTA) can participate in the study.

### What does the study involve?

Patients are asked to show-up before the start of the treatment at an initial appointment in order to collect some information, blood and saliva samples. At this appointment patients are randomly allocated to one of the four treatment groups: chlorhexidine mouthwash and one of the four antibiotic therapies along with the standard treatment (scaling and root planing). Patients have to bring the medications at the first day of the treatment and the treatment will start under supervision. Four weeks after completion of the treatment, patients are asked to come in for an oral hygiene control. Patients are assessed again at 3 months, 6 months and 12 months after the treatment. At these appointments, clinical information, saliva and blood samples are again collected.

### What are the possible benefits and risks of participating?

The patients will mainly benefit from the treatment of periodontitis. The patients who are allocated to the treatment groups with antibiotics may have a greater benefit. The main risks are related to the side effects of the antibiotics and the mouthwash.

Where is the study run from?

The study is run from the Department of Periodontology of the Academic Centre for Dentistry Amsterdam (ACTA), The Netherlands.

When is the study starting and how long is it expected to run for?

The study started in March 2008. We will expect the study to be completed in December 2014.

Who is funding the study?

This study is funded partly by a grant from the University of Amsterdam, The Netherlands.

Who is the main contact?

Mr Sergio Bizzarro, s.bizzarro@acta.nl

Prof. Bruno G. Loos, b.g.loos@acta.nl

## Contact information

### Type(s)

Scientific

### Contact name

Mr Sergio Bizzarro

### Contact details

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## Additional identifiers

EudraCT/CTIS number

IRAS number

ClinicalTrials.gov number

Secondary identifying numbers

NL19679.018.07

## Study information

### Scientific Title

The effect of treatment of periodontitis on markers of cardiovascular diseases: a randomized, single blinded, clinical trial

### Study objectives

The primary aim of the study is to investigate whether periodontal treatment results in a decrease of plasma biomarkers that are related to cardiovascular diseases and metabolic syndrome.

The secondary aim is to investigate which of the following treatment modalities is the most effective in the reduction of the above mentioned biomarkers: Scaling and root planing; Scaling and root planing + systemic antibiotics (amoxicillin and metronidazole); Scaling and root planing + subgingival disinfection with 0.5% NaOCl; Scaling and root planing + subgingival disinfection with 0.5% NaOCl + systemic antibiotics (amoxicillin and metronidazole).

### **Ethics approval required**

Old ethics approval format

### **Ethics approval(s)**

Medical Ethics Review Committee (METC); 15/01/2008; Ref: NL19679.018.07

Board Affiliation: Medical Ethics Committee of the Academic Medical Center of Amsterdam, The Netherlands

### **Study design**

Single center randomized single blinded clinical trial

### **Primary study design**

Interventional

### **Secondary study design**

Randomised controlled trial

### **Study setting(s)**

Other

### **Study type(s)**

Treatment

### **Participant information sheet**

Not available in web format, please use the contact details below to request a patient information sheet

### **Health condition(s) or problem(s) studied**

Periodontitis, cardiovascular diseases, metabolic syndrome

### **Interventions**

1. Scaling and root planing alone
2. Scaling and root planing + amoxicillin 375mg + metronidazole 250mg
3. Scaling and root planing + subgingival irrigation with 0.5% Natriumhypochlorite
4. Scaling and root planing + amoxicillin 375mg + metronidazole 250 mg + subgingival irrigation 0.5% Natriumhypochlorite

Periodontal treatment is carried out in 3 appointments within one week.

A check up is done 4 weeks after completion of the treatment.

Total follow-up is one year. Assessments are carried out at 3, 6 and 12 months follow-up.

### **Intervention Type**

Other

### **Phase**

Not Applicable

### **Primary outcome measure**

Markers of cardiovascular diseases and metabolic syndrome in peripheral plasma and serum (hsCRP, Lipid profile, hemostatic factors, glucose, insuline, HbA1c). Measured at baseline (before treatment), 3 months, 6 months and 12 months after treatment.

### **Secondary outcome measures**

Clinical (probing pocket depth, bleeding index, plaque index, attachment level) and microbiological parameters of periodontitis. Measured at baseline (before treatment), 3 months, 6 months and 12 months after treatment.

### **Overall study start date**

01/03/2008

### **Completion date**

01/12/2014

## **Eligibility**

### **Key inclusion criteria**

1. Patients both males and females, being 20 years or older
2. Patients affected by periodontitis defined as presence of 1/3 bone loss or more and presence of 6 mm pocket or more, with evidence of attachment loss at 2 or more teeth per quadrant and evidence of generalized bleeding

### **Participant type(s)**

Patient

### **Age group**

Adult

### **Sex**

Both

### **Target number of participants**

200

### **Key exclusion criteria**

1. No systemic chronic diseases
2. No acute medical interventions or diseases 4 weeks before baseline
3. No pregnancy
4. No chronic medications
5. No antibiotics 6 months before intake and no repeated use of NSAID's medications 4 weeks before intake
6. No hypersensitivity of contraindication for the use of amoxicillin and metronidazole

### **Date of first enrolment**

01/03/2008

**Date of final enrolment**

01/12/2014

## **Locations**

**Countries of recruitment**

Netherlands

**Study participating centre**

**Gustav Mahlerlaan 3004**

Amsterdam

Netherlands

1081LA

## **Sponsor information**

**Organisation**

Academic Centre for Dentistry Amsterdam (ACTA), University of Amsterdam and Vrij University of Amsterdam (Netherlands)

**Sponsor details**

Gustav Mahlerlaan 3004

Amsterdam

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**Sponsor type**

University/education

**ROR**

<https://ror.org/04x5wnb75>

## **Funder(s)**

**Funder type**

University/education

**Funder Name**

This study was self funded by the authors and their Institution. The department of periodontology is funded in part by a grant from the University of Amsterdam for the focal point Oral infection and inflammation.

# Results and Publications

## Publication and dissemination plan

Not provided at time of registration

## Intention to publish date

## Individual participant data (IPD) sharing plan

## IPD sharing plan summary

Not provided at time of registration

## Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Results article</a>	results	01/09/2016	29/01/2019	Yes	No
<a href="#">Results article</a>	results	01/08/2017	29/01/2019	Yes	No