Clinical Trial Protocol
Iranian Registry of Clinical Trials

18 Sep 2026

Comparative Evaluation of Clinical and Microbiological Effect of Subgingival Aplication of Chlorhexidine Gel and Photodynamic Therapy as an Adjunct to Full Mouth Scaling and Root Planning in Treatment of Periodontitis

Protocol summary

Summary

The aim of this clinical and microbial study is to compare the effectiveness of adjunctive Chlorhexidine gel and photodynamic therapy in the treatment of periodontitis.24 subjects (14 women and 10 men) suffering from moderate-to-severe chronic periodontitis attended in the study in Department of periodontics of Dental Faculty of Tabriz University of Medical Sciences. Main inclusion criteria are: Presence of at least one site per quadrant exhibiting pocket depth of ≥4 mm with bleeding on probing, main exclusion criteria are: Subjects with any systemic condition which might influence the course of periodontal disease or treatment (HIV/AIDS, uncontrolled diabetes). Before any nonsurgical treatment, subgingival plaque sampling carried out.one of the teeth in each quadrant with probing depth >4mm was selected for microbial and clinical assessment. Selected teeth in these quadrants were randomized to one of three treatments: chlorhexidine gel, photodynamic therapy and scaling and root planning followed by full mouth scaling and root planing.Clinical parameters of probing depth, clinical attachment level, bleeding on probing, gingival recession were measured at baseline, one month and three month after treatment and microbial analysis by real-time polymerase chain reaction carried out at baseline and 3 month after treatment.Primary outcome is probing depth.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2012070210155N1**
Registration date: **2012-07-16, 1391/04/26**
Registration timing: **retrospective**
Last update:
Update count: **0**

Registration date

2012-07-16, 1391/04/26

Registrant information

Name

Mohammad Taghi Chitsazi

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 41 1335 5965

Email address

chitsazm@tbzmed.ac.ir

Recruitment status

Recruitment complete

Funding source

Department of periodontics, Dental Faculty, Tabriz University of Medical Sciences

Expected recruitment start date

2011-08-23, 1390/06/01

Expected recruitment end date

2012-04-21, 1391/02/02

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparative Evaluation of Clinical and Microbiological Effect of Subgingival Aplication of Chlorhexidine Gel and Photodynamic Therapy as an Adjunct to Full Mouth Scaling and Root Planning in Treatment of Periodontitis

Public title
Comparison of Laser and Chlorhexidine Gel and Treatment of gingival disease.
Purpose
Treatment
Inclusion/Exclusion criteria
The participants with the following inclusion criteria included in the study: modera-to-severe chronic periodontitis, no active periodontal treatment during the past 6 months, presence of at least one site per quadrant exhibiting pocket depth of ≥4 mm with bleeding on probing. The exclusion criteria were: use of antibiotics for the past 6 months; previous periodontal surgery for the past 9 months,smoker persons; pregnant or lactating women; subjects with any systemic condition which might influence the course of periodontal disease or treatment (HIV/AIDS, uncontrolled diabetes); any active malignancy of any sort.
Age
From **18 years** old to **70 years** old
Gender
Both

Phase
N/A
Groups that have been masked
No information
Sample size
Target sample size: **24**
Randomization (investigator's opinion)
Randomized
Randomization description
Blinding (investigator's opinion)
Not blinded
Blinding description
Placebo
Not used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics Committe of Tabriz University of Medical Sciences
Street address
thics Committe of Tabriz University of Medical Sciences, Vice Chancllor for Research of Tabriz University of Medical Sciences, Tabriz University of Medical Sciences, Golghasht street,Tabriz
City
Tabriz
Postal code
5166614713
Approval date
2011-07-10, 1390/04/19
Ethics committee reference number
9155

Health conditions studied

1

Description of health condition studied
Chronic Periodontitis
ICD-10 code
K05.3
ICD-10 code description
Chronic periodontitis

Primary outcomes

1

Description
Probing depth
Timepoint
At baseline, one month and three month after baseline
Method of measurement
In millimetre by periodontal probe

Secondary outcomes

1

Description
Quantitative levels of Porphyromonas Gingivalis
Timepoint
baseline,3 month later
Method of measurement
quantitative measurement by real-time polymerase chain reaction

2

Description
Clinical attachment level (CAL)
Timepoint
Baseline, 1 month and 3 month after baseline
Method of measurement
In millimetre by periodontal probe

3

Description
Gingival recession (REC)
Timepoint
Baseline, 1 month and 3 month later
Method of measurement
In millimetre by periodontal probe.

4

Description
Bleeding on probing (BOP)
Timepoint
Baseline, 1 month and 3 month after baseline

Method of measurement
In millimetre by periodontal probe

Intervention groups

1

Description
scaling and root planning: standard treatment of periodontal disease which carried out for one time by ultrasonic instruments in one of the teeth of a patient with probing depth>4 mm in order to remove plaque and calculus.
Category
Treatment - Other

2

Description
Subgingival chlorhexine gel is a gel form material which is consist of chlorhexidine diglocunate and chlorhexidine dihydrochloride incorporated in a adhesive carrier called xanthan.Chlorhexidine gel was applied in the pocket of theselectedl site in other quadrant of the same patient in a single dose manner.
Category
Treatment - Drugs

3

Description
Photodynamic therapy in a therapeutic method that Following the activation of the photosensitizer through light of a certain wavelength, singlet oxygen is produced that is extremely toxic to certain cells and bacteria. Tolonium Chloride was applied in the pocket of the same patient and remained there for 60 seconds. After that tolonium chloride was irradiated by the laser with 670-690 nm wavelength and power density of 8-10 j/cm2 for 120 seconds .It was a single treatment.
Category
Other

Recruitment centers

1

Recruitment center
Name of recruitment center
Department of periodontics of Dental Faculty of Tabriz University of Medical Sciences
Full name of responsible person
Mohammad Tghi Chitsazi
Street address
Department of Periodontics of Dental Faculty of Tabriz University of Medical Sciences, Golghasht street
City
Tabriz

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Dental and Periodontal Research Center
Full name of responsible person
Reza Pourabbas
Street address
Dental and Periodontal Research Center of Dental Faculty Tabriz University of Medical Sciences, Golghasht stree
City
Tabriz
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Dental and Periodontal Research Center
Proportion provided by this source
100
Public or private sector
empty
Domestic or foreign origin
empty
Category of foreign source of funding
empty
Country of origin
Type of organization providing the funding
empty

Person responsible for general inquiries

Contact
Name of organization / entity
Department of periodontics of Dental Faculty of Tabriz University of Medical Sciences
Full name of responsible person
Mohammad Taghi Chitsazi
Position
Associate professor
Other areas of specialty/work
Street address
Department of Periodontics of Dental Faculty of Tabriz University of Medical Sciences, Golghasht street
City
Tabriz
Postal code
5166614711
Phone
+98 41 1335 5965
Fax
+98 41 1334 6977
Email
chitsazm@tbzmed.ac.ir
Web page address
http://dentistryfac.tbzmed.ac.ir/

Person responsible for scientific inquiries

Contact

Name of organization / entity
Department of periodontics of Dental Faculty of Tabriz University of Medical Sciences

Full name of responsible person
Mohammad Taghi Chitsazi

Position
Associate professor

Other areas of specialty/work

Street address
Department of Periodontics of Dental Faculty of Tabriz University of Medical Sciences, Golghasht street

City
Tabriz

Postal code
5166614711

Phone
+98 41 1335 5965

Fax
+98 41 1334 6977

Email
chitsazm@tbzmed.ac.ir

Web page address
http://dentistryfac.tbzmed.ac.ir

Person responsible for updating data

Contact

Name of organization / entity
Department of periodontics of Dental Faculty of Tabriz University of Medical Sciences * نام سازمان

Full name of responsible person
Vadood Ghasemi Barghi

Position
Post graduate student

Other areas of specialty/work

Street address
Department of Periodontics of Dental Faculty of Tabriz University of Medical Sciences, Golghasht street

City
Tabriz

Postal code
5166614711

Phone
+98 41 1335 5965

Fax
+98 41 1334 6977

Email
barghi.v@gmail.com

Web page address
http://dentistryfac.tbzmed.ac.ir

Sharing plan

Deidentified Individual Participant Data Set (IPD)
empty

Study Protocol
empty

Statistical Analysis Plan
empty

Informed Consent Form
empty

Clinical Study Report
empty

Analytic Code
empty

Data Dictionary
empty