

Clinical Trial Protocol

Iranian Registry of Clinical Trials

28 May 2026

Comparative Evaluation of Clinical and Microbiological Effect of Subgingival Application 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 > 4 mm 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 Application 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 consist of chlorhexidine digluconate 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