

Clinical Trial Protocol

Iranian Registry of Clinical Trials

07 Jul 2026

Comparison of the clinical and microbiological effects of photodynamic therapy as an adjunctive treatment with scaling and root planning with scaling and root planning alone in aggressive periodontitis

Protocol summary

Summary

The aim of the present study was to compare the effects of photodynamic therapy as an adjunctive treatment with scaling and root planning with the scaling and root planning alone on clinical and microbiological parameters in patients with aggressive periodontitis. Inclusion and exclusion criteria: patients with aggressive periodontitis and no systemic disease were selected. Study population, sample size and primary outcome: Twenty eight patients with aggressive periodontitis as split mouth design and based on inclusion criteria were selected. In order to evaluate periodontal status, the clinical parameters of clinical attachment level as primary outcome, probing depth, gingival Index, Plaque Index and bleeding on probing were measured and recorded before treatment and at 3 month after treatment. Microbial parameters of the study, the quantitative level of Aa, were determined by special laboratory kits of real-time PCR at the same time.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201211277128N3**

Registration date: **2012-12-23, 1391/10/03**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2012-12-23, 1391/10/03

Registrant information

Name

Adileh Shirmohammadi

Name of organization / entity

Tabriz University of Medical Sciences

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Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Tabriz University of Medical Science

Expected recruitment start date

2012-07-22, 1391/05/01

Expected recruitment end date

2012-11-21, 1391/09/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of the clinical and microbiological effects of photodynamic therapy as an adjunctive treatment with scaling and root planning with scaling and root planning alone in aggressive periodontitis

Public title

Comparison of the effect of photodynamic therapy associated with scaling and scaling alone in aggressive gingival disease

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: A total of 28 patients; with an age range of 18-45 years, suffering from aggressive periodontitis; The subjects had at least 12 teeth and at

least 3 teeth in each quadrant and one tooth with CAL \geq 4mm in each quadrant. Exclusion criteria: systemic disease; conditions which delay would healing; a history of radiotherapy or immune-suppressive treatment modalities; pregnancy or breast-feeding; use of systemic antibiotics during the 6 previous months; history of scaling and root planning during the previous year.

Age

From **18 years** old to **45 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **28**

Randomization (investigator's opinion)

Randomized

Randomization description**Blinding (investigator's opinion)**

Double blinded

Blinding description**Placebo**

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Ethics committee of Tabriz University of Medical Science

Street address

Dentistry Faculty, Daneshgah St, Golgasht

City

Tabriz

Postal code

5566614711

Approval date

2012-10-20, 1391/07/29

Ethics committee reference number

91128

Health conditions studied**1****Description of health condition studied**

aggressive periodontitis

ICD-10 code

K05.4 Peri

ICD-10 code description

Juvenile periodontosis

Primary outcomes**1****Description**

Clinical attachment level (CAL)

Timepoint

baseline and 3 month later

Method of measurement

milimeter distance from CEJ to bottom of pocket with a periodontal probe

Secondary outcomes**1****Description**

Probing Depth (PD)

Timepoint

baseline and 3 month later

Method of measurement

milimeter distance from gingival margin to botom of pocket

2**Description**

bleeding on probing (BOP)

Timepoint

baseline and 3 month later

Method of measurement

presence or absence of bleeding 30 s after probing

3**Description**

recession (REC)

Timepoint

baseline and 3 month later

Method of measurement

milimeter distance from CEJ to gingival margin

4**Description**

Plaque Index (PI)

Timepoint

baseline and 3 month later

Method of measurement

Oleary Plaque Index

5**Description**

Gingival Index(GI)

Timepoint

baseline and 3 month later

Method of measurement

Loe & Silness introduced it base on imflamation and ademe and redness and important object of it, is

bleeding

6

Description

quantitative measurement of Aa (Aggregatibacter actinomycetemcomitans)

Timepoint

baseline and 3 month later

Method of measurement

real time PCR by special laboratory kits of real-time PCR

Intervention groups

1

Description

control: scaling and root planning as full mouth approach in all quadrants

Category

Treatment - Other

2

Description

intervention: Scaling and root planning with photodynamic therapy in the selected teeth with PD \geq 4mm after application of photosensitizer and then the irradiation of the laser with wavelength 670-690 nm with energy of 75 mW/cm² for 120 seconds

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Tabriz Dentistry faculty, Periodontics ward, Tabriz University of Medical Science

Full name of responsible person

Dr Adile Shirmohamadi

Street address

Daneshgah st, Golgasht

City

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Tabriz University of Medical Science

Full name of responsible person

Dr Reza Pourabbas

Street address

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City

Tabriz

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

Tabriz University of Medical Science

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

Tabriz University of Medical Science

Full name of responsible person

Dr Ilnaz Farhoudi

Position

Resident of periodontics

Other areas of specialty/work

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Person responsible for scientific inquiries

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Position

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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