Clinical Trial Protocol
Iranian Registry of Clinical Trials

17 Sep 2026

Comparison of the effects of scaling and root planning with or without photodynamic therapy (with indocyanine green) and 810nm diode laser on clinical parameters and biomarkers of gingival crevicular fluid in chronic periodontitis

Protocol summary

Summary

Comparison of the effects of scaling and root planning with or without photodynamic therapy (with indocyanine green) and 810nm diode laser(LANAP) on clinical parameters and biomarkers of gingival crevicular fluid(IL-1B,IL-4) in chronic periodontitis. The study is a split-mouth double-blind randomized clinical trial, participents were selected from the patients refferd for periodontal tratmentn the department of periodontics of shahid beheshti dental school. Inclusion criteria: good general health; patient presented with chronic periodontitis as defined by periodontist; pateints must have 12 natural teeth with a minimum of three in each quadrant, teeth must have CAL>3 mm & PD>5mm with BOP. Exclusion criteria: systemic diseases including: diabetes mellitus; cancer, HIV, metabolic disorders; pregnancy & lactation; estrogen therapy for female patients; smokers; patient who had received systemic antibiotics within the past 6 months; surgical or non-surgical periodontal treatment within the past 6 months & class III mobility of tooth. Intervention include: 1-photodynamic therapy with laser diode 810 nm, power 0.4 w and indocyanin green+SRP; 2-LANAP with laser diode 810 nm and power 1.5 w+SRP; 3-SRPalone(control). PD, CAL, BOP, IL-1B & IL-4 were defined before and 1 & 3 months after treatment.

General information

Acronym

PDT-LANAP

IRCT registration information

IRCT registration number: **IRCT2015060722598N1**
Registration date: **2016-05-18, 1395/02/29**
Registration timing: **retrospective**
Last update:
Update count: **0**

Registration date

2016-05-18, 1395/02/29

Registrant information

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Mansour Meimandi
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Recruitment status

Recruitment complete

Funding source

Shahid Beheshti Dental School

Expected recruitment start date

2015-11-03, 1394/08/12

Expected recruitment end date

2015-11-11, 1394/08/20

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of the effects of scaling and root planning with or without photodynamic therapy (with indocyanine green) and 810nm diode laser on clinical parameters and biomarkers of gingival crevicular fluid in chronic periodontitis

Public title
Effects of laser on inflamatory periodontal disease(periodontitis)
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria: good general health; patient presented with chronic periodontitis as defined by periodontist; pateints must have 12 natural teeth with a minimum of three in each quadrant, teeth must have CAL>3 mm & PD>5mm with BOP. Exclusion criteria: systemic diseases including: diabetes mellitus; cancer, HIV, metabolic disorders; pregnancy & lactation; estrogen therapy for female patients; smokers; patient who had received systemic antibiotics within the past 6 months; surgical or non-surgical periodontal treatment within the past 6 months & class III mobility of tooth.
Age
From **25 years** old to **65 years** old
Gender
Both

Phase
N/A
Groups that have been masked
No information
Sample size
Target sample size: **14**
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
Shahid Beheshti Dental School
Street address
Shahid Beheshti Dental School, Daneshjou Blvd., Velenjak
City
Tehran
Postal code
1983963113
Approval date
2015-12-22, 1394/10/01
Ethics committee reference number
IR.SBMU.RIDS.REC.1394.75

Health conditions studied

1

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

Primary outcomes

1

Description
periodontal depth-
Timepoint
Before treatment,1&3 month after treatmenr
Method of measurement
PD with periodontal probing

2

Description
clinical attachment level
Timepoint
Before treatment,1&3 month after treatmenr
Method of measurement
cal with periodontal probing

3

Description
IL-1B
Timepoint
Before treatment,1&3 month after treatmenr
Method of measurement
ELISA test

4

Description
bleeding on probing
Timepoint
Before treatment,1&3 month after treatmenr
Method of measurement
observation 30-60 sec after pocket probing

5

Description
IL-4
Timepoint
Before treatment,1&3 month after treatmenr
Method of measurement
ELISA test

Secondary outcomes

empty

Intervention groups

1

Description
1-SRP alone(Control).
Category
Treatment - Other

2

Description
Photodynamic therapy with laser diode 810 nm. And 0/4 w and indocyaningreen + srp
Category
Treatment - Drugs

3

Description
Laser diode810 nm and 1/5 w + srp
Category
Treatment - Drugs

Recruitment centers

1

Recruitment center
Name of recruitment center
Periodotics Department, Shahid Beheshti Dental School
Full name of responsible person
Dr. Mansour Meimandi
Street address
City
Tehran

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Shahid Beheshti Dental School
Full name of responsible person
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Street address
Shahid Beheshti Dental School, Daneshjou Blvd., Velenjak
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Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Shahid Beheshti Dental School
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
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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