

Clinical Trial Protocol

Iranian Registry of Clinical Trials

13 Jun 2026

Comparing the efficiency of 940 nm diode laser and Er,Cr:YSGG 2780 nm following SRP on IL-10 level in GCF of patient with chronic periodontitis

Protocol summary

Study aim

the effect of adjunctive 2 wave-length laser therapy with scaling and root planning (SRP) on gingival crevicular fluid (GCF) IL-10 level in chronic periodontitis

Design

randomized clinical trial, double-blind, split-mouth

Settings and conduct

periodontics department, Islamic Azad university of medical science split-mouth design on 16 patients with 6 months follow up single blind study

Participants/Inclusion and exclusion criteria

patients with moderate to severe chronic periodontitis, No systemic disease, having at least 16 teeth, no use of drugs (anti-biotic, corticosteroid, immuno-suppressive), no history of periodontal treatment during last 6 months, no pregnancy and/or breast-feeding

Intervention groups

test group1: 1 quadrants will be treated by diode laser 940nm following SRP (scaling and root planing). test group2: 1 quadrants will be treated by Er,Cr:YSGG 2780nm following SRP (scaling and root planing). control group: the third quadrant will receive only SRP treatment

Main outcome variables

Interleukin-10 clinical attachment level (CAL)

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20140318017053N11**

Registration date: **2019-06-19, 1398/03/29**

Registration timing: **retrospective**

Last update: **2019-06-19, 1398/03/29**

Update count: **0**

Registration date

2019-06-19, 1398/03/29

Registrant information

Name

Ferena Sayar

Name of organization / entity

Country

Iran (Islamic Republic of)

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Email address

f_sayar@dentaliau.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2018-11-22, 1397/09/01

Expected recruitment end date

2019-01-21, 1397/11/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparing the efficiency of 940 nm diode laser and Er,Cr:YSGG 2780 nm following SRP on IL-10 level in GCF of patient with chronic periodontitis

Public title

The effect of laser therapy on IL-10 level during periodontal treatment

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

systemic health Having 16 teeth or more patient with moderate to severe chronic periodontitis

Exclusion criteria:

smoking pregnancy breast-feeding use of drugs

(corticosteroid, anti-biotic, immuno-suppressive)
periodontal therapy during the last 6 months.

Age

From **25 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Participant
- Investigator

Sample size

Target sample size: **16**

More than 1 sample in each individual

Number of samples in each individual: **3**
collecting GCF

Randomization (investigator's opinion)

Randomized

Randomization description

randomization by computer generated randomization list
(microsoft excel 2010)

Blinding (investigator's opinion)

Single blinded

Blinding description

investigator will not aware of the control and test sites,
he only records clinical data.

Placebo

Not used

Assignment

Parallel

Other design features

split-mouth

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of Faculty of Dentistry Tehran
Medical sciences , Islamic Azad University

Street address

No.4 , 10th Neyestan st. , Pasdaran Ave.

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Tehran

Province

Tehran

Postal code

1946853314

Approval date

2018-11-21, 1397/08/30

Ethics committee reference number

IR.IAU.DENTAL.REC.1397.017

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

clinical attachment level

Timepoint

base-line , 2 and 6 months after phase I periodontal
therapy.

Method of measurement

periodontal probe

2

Description

Interleukin-10 in GCF

Timepoint

base-line , 2 and 6 months after phase I periodontal
therapy.

Method of measurement

ELISA test

Secondary outcomes

1

Description

Pocket Depth

Timepoint

base-line , 2 and 6 months after phase I periodontal
therapy.

Method of measurement

periodontal probe.

2

Description

bleeding on probing.

Timepoint

base-line , 2 and 6 months after phase I periodontal
therapy.

Method of measurement

periodontal probe.

Intervention groups

1

Description

Intervention group 1: diode laser 940 nm (Ezlase,
biolase, USA) , 1 W , 20 sec.

Category

Treatment - Devices

2**Description**

Intervention group 2 : laser Er,Cr:YSGG 2780 nm (iPlus, Waterlase, Biolase, USA) 1.5 W , 30 Hz , 11% air , 20% water , pulse duration 140 µs.

Category

Treatment - Devices

3**Description**

Control group: phase I periodontal therapy

Category

Treatment - Devices

Recruitment centers**1****Recruitment center****Name of recruitment center**

Department of Periodontics, Faculty of Dentistry,
Tehran Medical sciences, Islamic Azad University

Full name of responsible person

DR.Ferena Sayar

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Web page address**Sponsors / Funding sources****1****Sponsor****Name of organization / entity**

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Full name of responsible person

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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

Islamic Azad University

Proportion provided by this source

1

Public or private sector

Private

Domestic or foreign origin

Domestic

Category of foreign source of funding

empty

Country of origin**Type of organization providing the funding**

Academic

Person responsible for general inquiries**Contact****Name of organization / entity**

Islamic Azad University

Full name of responsible person

Ferena Sayar

Position

Associate professor

Latest degree

Specialist

Other areas of specialty/work

Dentistry

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Web page address**Sharing plan****Deidentified Individual Participant Data Set (IPD)**Undecided - It is not yet known if there will be a plan to
make this available**Study Protocol**Undecided - It is not yet known if there will be a plan to
make this available**Statistical Analysis Plan**Undecided - It is not yet known if there will be a plan to
make this available**Informed Consent Form**Undecided - It is not yet known if there will be a plan to
make this available**Clinical Study Report**Undecided - It is not yet known if there will be a plan to
make this available**Analytic Code**Undecided - It is not yet known if there will be a plan to
make this available**Data Dictionary**Undecided - It is not yet known if there will be a plan to
make this available