Clinical Trial Protocol
Iranian Registry of Clinical Trials

08 Nov 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 adjunctive2 wave-lenght 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, corticostroid, immuo-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 recieve 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

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Iran (Islamic Republic of)

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+98 21 2256 4571

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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

(corticostroid, 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.

City

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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Sponsors / Funding sources

1

Sponsor
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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
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Full name of responsible person
Ferena Sayar
Position
Associate professor
Latest degree
Specialist
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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