

Clinical Trial Protocol

Iranian Registry of Clinical Trials

09 Jun 2026

Comparative evaluation of the effects of laser Diode 980 nm and CPP-ACP paste on treatment of dentinal hypersensitivity

Protocol summary

Study aim

Comparative evaluation of the effects of laser Diode 980 nm and CPP-ACP paste on treatment of dentinal hypersensitivity

Design

Non randomized clinical trials with a control group , with parallel groups , a blind strain , randomized

Settings and conduct

In order to record the pain intensity of 96 dentin hypersensitivity teeth in 7 patients entered the study stimulation was performed using dry ice spray on a swab and VAS index, and the compliance was based on the primary VAS of the teeth And then a Nonrandomization took place.

Participants/Inclusion and exclusion criteria

Inclusion Criteria:Patients referring to dental faculty of isfahan university of medical sciences who have cervical dentin hypersensitivity in at least three teeth in three separate half jaw Patients will be available for three months during the study and sign the form of consent form . Teeth do not need restoration treatment Erosion,attrition,dental cracks,pulpitis,periodontal disease Active caries,restorated teeth,Crown fracture Patients who have taken anti-histamine ,anti-depression and analgesics one month before the study Pregnant and lactating women Smokers Patients who have received anti-Sensitivities toothpaste over the past 6 weeks.

Intervention groups

Intervention group1: The emission with a 1mm distance and 45 degree angle with the tooth surface for 30 seconds was radiated and reciprocating during the two sessions with a period of 1 weeks . Intervention group2: GC paste Tooth Mousse (according to the manufacturer 's instructions) is placed on the surface of the tooth for 3 min and is asked to not do the swallowing act during this period and abstain from drinking and drinking in 30 minutes . Control group: The teeth were not treated,and the direction of blindness of the study group was limited to stimulating the conditions under the radiation beam.

Main outcome variables

Improvement of dental hypersensitivity

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20150613022699N5**

Registration date: **2020-04-07, 1399/01/19**

Registration timing: **prospective**

Last update: **2020-04-07, 1399/01/19**

Update count: **0**

Registration date

2020-04-07, 1399/01/19

Registrant information

Name

Reza Birang

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 31 3792 5525

Email address

birang@dnt.mui.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2020-04-18, 1399/01/30

Expected recruitment end date

2020-09-20, 1399/06/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparative evaluation of the effects of laser Diode 980 nm and CPP-ACP paste on treatment of dentinal hypersensitivity

Public title

Comparative evaluation of the effects of laser Diode 980 nm and CPP-ACP paste on treatment of dentinal hypersensitivity

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Inclusion Criteria:Patients referring to dental faculty of isfahan university of medical sciences who have cervical dentin hypersensitivity in at least three teeth in three separate half jaw Patients will be available for three months during the study and sign the form of consent form . Teeth do not need restoration treatment

Exclusion criteria:

Erosion,attrition,dental cracks,pulpitis,periodontal disease Active caries,restorated teeth,Crown fracture Patients who have taken anti-histamine ,anti-depression and analgesics one month before the study Pregnant and lactating women Smokers Patients who have received anti-Sensitivities toothpaste over the past 6 weeks.

Age

No age limit

Gender

Both

Phase

N/A

Groups that have been masked

- Participant

Sample size

Target sample size: **10**

More than 1 sample in each individual

Number of samples in each individual: **10** sensitive teeth

Randomization (investigator's opinion)

Not randomized

Randomization description

Blinding (investigator's opinion)

Single blinded

Blinding description

The patient was informed about the therapeutic methods , including the treatment of laser therapy , the therapy with the CPP - ACP and the control group , but did not know what each tooth receives .

Placebo

Used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of Isfahan University of Medical Sciences

Street address

No. 373,Shahriar(12) Alley,Mir fendereski St

City

Isfahan

Province

Isfahan

Postal code

8163614754

Approval date

2019-11-14, 1398/08/23

Ethics committee reference number

IR.MUI.RESEARCH.REC.1398.452

Health conditions studied

1

Description of health condition studied

Dental Hypersensitivity

ICD-10 code

K08.9

ICD-10 code description

Disorder of teeth and supporting structures, unspecified

Primary outcomes

1

Description

Initial improvement of dental hypersensitivity

Timepoint

A dental sensitivity is measured in a month before and after therapeutic intervention every week.

Method of measurement

According to the visual analogue scale

Secondary outcomes

1

Description

Long-term improvement in dental hypersensitivity

Timepoint

One week,30 days and 60 days after the last therapeutic intervention

Method of measurement

According to the visual analogue scale

Intervention groups

1

Description

Intervention group: The emission with a 1mm distance and 45 degree angle with the tooth surface for 30 seconds was radiated and reciprocating during the two sessions with a period of 1 weeks .

Category

Treatment - Other

2**Description**

Intervention group: GC paste Tooth Mousse (according to the manufacturer 's instructions) is placed on the surface of the tooth for 3 min and is asked to not do the swallowing act during this period and abstain from drinking and drinking in 30 minutes .

Category

Treatment - Other

3**Description**

Control group: The teeth were not treated, and the direction of blindness of the study group was limited to stimulating the conditions under the radiation beam.

Category

Placebo

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

Faculty of Dentistry, Isfahan University of Medical Sciences

Full name of responsible person

Narges Almasi

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No. 373, Shahriar(12) Alley, Mir fendereski St

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Sponsors / Funding sources**1****Sponsor****Name of organization / entity**

Esfahan University of Medical Sciences

Full name of responsible person

Dr Reza Birang

Street address

Dental faculty, Isfahan university of Medical Sciences, Hezarjarib S

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8174673461

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birang@dnt.mui.ac.ir

Grant name**Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

Title of funding source

Esfahan University of Medical Sciences

Proportion provided by this source

100

Public or private sector

Public

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**

Esfahan University of Medical Sciences

Full name of responsible person

Narges Almasi

Position

Dental Intern

Latest degree

Medical doctor

Other areas of specialty/work

Dentistry

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

Esfahan University of Medical Sciences

Full name of responsible person

Dr Reza Birang

Position

Professor of Periodontics

Latest degree

Specialist

Other areas of specialty/work

Dentistry

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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

Person responsible for updating data

Contact

Name of organization / entity

Esfahan University of Medical Sciences

Full name of responsible person

Narges Almasi

Position

Dental Intern

Latest degree

Medical doctor

Other areas of specialty/work

Dentistry

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