Clinical Trial Protocol
Iranian Registry of Clinical Trials

17 Sep 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 reffering 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 reffering 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
Isfehan

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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8163614754

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narges.almas@gmail.com

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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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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Person responsible for updating data

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Name of organization / entity
Esfahan University of Medical Sciences

Full name of responsible person
Narges Almasi

Position
Dental Intern

Latest degree
Medical doctor

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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