Clinical Trial Protocol
Iranian Registry of Clinical Trials

09 Nov 2026

The effect of low level laser on the depth of anesthesia during treatment of lower mandibular molar r with irreversible pulpitis teeth

Protocol summary

Summary
In randomized clinical trial study 44 patient with symptomatic irreversible pulpitis in mandibular teeth are selected. in one(22 patient) group low level laser is exposed and another group are control. Pain intensity is measured before start of protocol with visual analog scale.electric pulp test is measured after and before of laser irradiation to buccal aspect of teeth. Dose of laser is 15 j/cm2 with diode laser.laser irradiates before injection.electric pulp test is done immediately after irradiation of laser for measurement of nerve signal transmission. Inferior alveoular nerve block injection is done.index for success of injection is lip numbness. After that access cavity preparation is started and the pain measured during dentin cutting and exposure of pulp with visual analog scale.

General information

Acronym
tehran endodontic study
IRCT registration information
IRCT registration number: **IRCT2016112631102N1**
Registration date: **2017-01-22, 1395/11/03**
Registration timing: **prospective**

Last update:
Update count: **0**
Registration date
2017-01-22, 1395/11/03

Registrant information
Name
Abbas Khosravi
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Tehran University of Medical Sciences
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Recruitment status
Recruitment complete
Funding source
Investigator

Expected recruitment start date
2017-01-29, 1395/11/10
Expected recruitment end date
2017-02-28, 1395/12/10
Actual recruitment start date
empty
Actual recruitment end date
empty
Trial completion date
empty

Scientific title
The effect of low level laser on the depth of anesthesia during treatment of lower mandibular molar r with irreversible pulpitis teeth

Public title
The effect of low level laser on the depth of anesthesia during treatment of lower mandibular molar with irreversible pulpitis teeth
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria: irreversible pulpitis in lower molar teeth, understanding of testimonial, accessibility to patient, age at least 18 years old. Exclusion criteria: history of systemic diseases, heart disease, diabetes, cancer, psychological problem, use of antibiotic and analgesic, malocclusion, lesion in mouth.
Age
From **18 years** old to **99 years** old
Gender

Both

Phase
N/A
Groups that have been masked
No information
Sample size
Target sample size: **44**
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
Tehran University of Medical Sciences
Street address
Tehran University of Medical Sciences, Qhods St., Keshavarz blvd.
City
Tehran
Postal code
Approval date
2016-11-15, 1395/08/25
Ethics committee reference number
IR.TUMS.VCR.REC.1395.1037

Health conditions studied

1

Description of health condition studied
Irreversible Pulpitis
ICD-10 code
K04.0
ICD-10 code description
Pulpitis

Primary outcomes

1

Description
Pain
Timepoint
Before laser irradiation and during dentin and pulp exposure
Method of measurement
Visual Analog Scale

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: usage of low level laser on the buccal of teeth and use the laser in the on mode.
Category
Treatment - Other

2

Description
Contorol group: keeping the low level laser on the buccal of teeth but not turn on the laser and use laser in the off mode.
Category
Placebo

Recruitment centers

1

Recruitment center
Name of recruitment center
Endodontic department, Dentistry faculty, Tehran University of Medical Sciences
Full name of responsible person
Abbas Khosravi
Street address
Dentistry faculty, Tehran University of Medical Sciences, North Kargar street
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Sponsors / Funding sources

1

Sponsor
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Tehran University of Medical Sciences
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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

Tehran University of Medical Sciences

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

Name of organization / entity
Tehran University of Medical Sciences

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Position
Resident of endodontic

Other areas of specialty/work

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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