Clinical Trial Protocol
Iranian Registry of Clinical Trials

16 Sep 2026

Effect of low level laser on pain reduce of infiltration injection

Protocol summary

Study aim
Effect of low lwvwl laser on pain reduce of infiltration injection

Design
The research was carried out using a randomized, double-blind, and randomized clinical trial. A total of 60 maxillary canine teeth were selected in selected patients, and teeth with caries, periapical lesions, extensive restorations, anatomical and left-anesthetic problems were excluded. The number of high cannan teeth belonged to 30 individuals aged between 18 and 30 years old who were randomly selected. Due to the administration of lidocaine anesthetics, the subjects were systemically (cardiovascular, thyroid, and ... healthy and had no problems

Settings and conduct
The subjects studied were half the cardiopril of lidocaine / epinephrine Using the infiltration method on one side of the two randomly selected side, received first and received the same amount of anesthetic on the other side after the first injection. In both steps and before injection, the head tube of the handpiece of the low-power laser device was placed in the apex of the upper canine tooth that was to be injected. Of course, only one laser radiation was activated in such a way that the subjects were not aware of radiation irradiation. VAS visual measurements were performed using visual analogue VAS method. The data was collected by a person who, like the subjects, did not know about radiation from the lack of laser radiation at that injection time.

Participants/Inclusion and exclusion criteria
People with Healty upper canine on both side Without systemic diseases Can participate in the study but People with systemic diseases or People with missed canine or People with unhealty canine cant participate in the study

Intervention groups
30 teeth are exposed to laser irradiation and placed in the intervention group and 30 teeth are not exposed to radiation and placed in the control group

Main outcome variables
Pain

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20190429043418N1**
Registration date: **2019-06-19, 1398/03/29**
Registration timing: **prospective**

Last update: **2019-06-19, 1398/03/29**
Update count: **0**

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

Registrant information

Name
Arman Aghazadeh dokandari

Name of organization / entity

Country
Iran (Islamic Republic of)

Phone
+98 21 5585 1131

Email address
aghazadeh.arman@gmail.com

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2019-06-22, 1398/04/01

Expected recruitment end date
2019-07-01, 1398/04/10

Actual recruitment start date
2019-06-23, 1398/04/02

Actual recruitment end date
2019-07-01, 1398/04/10

Trial completion date

2019-07-01, 1398/04/10

Scientific title
Effect of low level laser on pain reduce of infiltration injection

Public title
Effect of low level laser on pain reduce of injection
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria:
People with Healty upper canine on both side People Without systemic diseases People aged 18 to 30 years old
Exclusion criteria:
People with systemic diseases People with missed canine People with unhealty canine
Age
From **18 years** old to **30 years** old
Gender
Both

Phase
N/A
Groups that have been masked

- Participant
- Care provider
- Investigator
- Outcome assessor
- Data analyser

Sample size
Target sample size: **30**
More than 1 sample in each individual
Number of samples in each individual: **2**
2 Healty canine on both sides of maxilla
Actual sample size reached: **30**
Randomization (investigator's opinion)
Randomized
Randomization description
Sampling in this study was done randomly from among eligible individuals and the choice of the desired position for laser irradiation and first injection of lidocaine was done randomly.
Blinding (investigator's opinion)
Double blinded
Blinding description
In both steps and before injection, the head tube of the handpiece of the low-power laser device was placed in the apex of the upper canine tooth that was to be injected. Of course, only one laser radiation was activated in such a way that the subjects were not aware of radiation irradiation or laser irradiation. In both cases, visual measurement of pain using the visual analogue sampling method was performed by a person who, like the subjects, Radiation or non-radiation of the low-power laser was not known at the time of injection
Placebo
Used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics committee of Tehran University of Medical Sciences
Street address
Tehran University of Medical Sciences,Qods st,Keshavarz Blvd
City
Tehran
Province
Tehran
Postal code
1417653761
Approval date
2018-08-04, 1397/05/13
Ethics committee reference number
IR.TUMS.DENTISTRY.REC.1397.067

Health conditions studied

1

Description of health condition studied
Pain of infiltration injection
ICD-10 code
ICD-10 code description

Primary outcomes

1

Description
Pain
Timepoint
Measurement of pain immediately after anesthetic injection
Method of measurement
Visual Analouge Scale

Secondary outcomes

1

Description
Time
Timepoint
Anesthetic duration
Method of measurement
Minutes

Intervention groups

1

Description
Intervention group : 30 teeth are exposed to laser irradiation and placed in the intervention group
Category
Treatment - Other

2

Description
Control group : 30 teeth are not exposed to radiation and placed in the control group
Category
Treatment - Other

Recruitment centers

1

Recruitment center
Name of recruitment center
laser department of denistry school of Tehran University of Medical Sciences International Campus
Full name of responsible person
Arman Aghazadeh Dokandari
Street address
Dentistry school of Tehran University of Medical Sciences International Campus,Mahan St,Khani abad Town,Tehran
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Tehran University of Medical Sciences
Full name of responsible person
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Street address
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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
Private
Domestic or foreign origin
Domestic
Category of foreign source of funding
empty
Country of origin
Type of organization providing the funding
Persons

Person responsible for general inquiries

Contact
Name of organization / entity
Tehran University of Medical Sciences
Full name of responsible person
Arman Aghazadeh Dokandari
Position
Student
Latest degree
A Level or less
Other areas of specialty/work
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Person responsible for updating data

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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