

Clinical Trial Protocol

Iranian Registry of Clinical Trials

11 Sep 2026

Efficacy of low level laser therapy on postendodontic pain in mandibular molars with symptomatic irreversible pulpitis

Protocol summary

Summary

Title of this study is the efficacy of low level laser therapy on postendodontic pain in mandibular molars with symptomatic irreversible pulpitis . Inclusion criteria :20-50 years old male or female who needed root canal therapy of mandibular molars exclusion criteria:root canal teeth, no history of drug use (antibiotic , NSAID , opioid ,corticosteroid) ,analgesic use during 12 hours before treatment, pregnancy, diabetes, malignancy, complicated anatomy ,close canals in graphy,,internal and external resorption,open apex ,periodontal disease , swelling , abscess , lesion in graphy ,sensitive in percussion .90 patiens (45 females, 45 males, mean age: 20-50years) with the demand for endodontic treatment on their permanent mandibular molars with symptomatic irreversible pulpitis)moderate to sever pain)who refered to Zahedan dentistry university and informed consent was obtained prior to the treatments. after endodontic treatment All patients were randomly selected and divided into two groups. In the laser group, In the control group patients received placebo without laser. The patients were blinded to the difference between these groups. All root canal therapies were performed in a single-visit treatment. After the standard chemomechanical preparation of the canals by recieproc(rotary) files. they were obturated using lateral compaction technique and AH26 sealer . laser was given to mandibular molars at a right angle to the buccul and lingual mucosa at the level of the apices for 60 seconds. Application of the laser probe was straight and close to mucosae overlying the apices.In group 1 after treatment The laser unit was a diode laser with a wavelength of 940 nm and output power 200 mv . Pain was evaluated using the Visual Analog Scale and patients were instructed to fill in the questionnaire at 6, 12, 24, and 48 AND 72 hours after root canal treatment.also a packet contains 6 lpobrophen 400 mg were given to patient and they were advised to use them just in sever pain. The information collected from the questionnaires was about the

prevalence and the intensity of post-treatment pain. The intensity of pain was evaluated on a numeric rating scale (Visual Analogue Scale) of 0 for "no pain" to 10 for "unbearable pain". This method makes it possible to quantify the pain level.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2017052834193N1**

Registration date: **2017-11-01, 1396/08/10**

Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2017-11-01, 1396/08/10

Registrant information

Name

Bitā Aramesh

Name of organization / entity

Pardis

Country

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Phone

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Recruitment status

Recruitment complete

Funding source

Zahedan Dentistry University

Expected recruitment start date

2016-12-31, 1395/10/11

Expected recruitment end date

2017-12-31, 1396/10/10

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Efficacy of low level laser therapy on postendodontic pain in mandibular molars with symptomatic irreversible pulpitis

Public title

low level laser therapy on postendodontic pain

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:20-50 years old male or female.needind root canal therapy of mandibular molars with irreversible pulpitis exclusion criteria:Root canal treatment before:any antibiotics.NSAID used: analgesics used during 12 hours before the endodontic treatment 'pregnancy 'malignancy' diabetes:complicated anatomy of root:internal and external resorption' open apex:periodontal disease: swelling and abscess:radiographic lesion:pain in percussion:no occlusal contact.

AgeFrom **20 years** old to **50 years** old**Gender**

Both

Phase

N/A

Groups that have been masked*No information***Sample size**Target sample size: **90****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**

Dental University

Street address

Zahedan

City

Zahedan

Postal code**Approval date**

2016-11-21, 1395/09/01

Ethics committee reference number

IR.ZAUMS.REC.1395. 243

Health conditions studied**1****Description of health condition studied**

pain after endodontic treatment

ICD-10 code

K04.4

ICD-10 code description

Acute apical periodontitis of pulpal origin

Primary outcomes**1****Description**

PAIN

Timepoint

6.12.24.48.72 HOURS AFTER TREATMENT

Method of measurement

VAS

Secondary outcomes**1****Description**

nothing

Timepoint

nothing

Method of measurement

nothing

2**Description**

nothing

Timepoint

nothing

Method of measurement

nothing

Intervention groups**1****Description**

Intervention group: laser was given to endodontically treated molars by virtue of a dental applicator positioned at a right angle to the mucosa at the level of the apices both the buccal and lingual mucosae overlying the apices of the target tooth. Total exposure time for each side was 30 seconds . diode laser with a wavelength of 940

nm ,constant wave with a mean output of 200 mw.

Category

Other

2

Description

in control group,laser used placebo (no laser)

Category

Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Dentistry University

Full name of responsible person

Dr Bita Aramesh

Street address

Azadegan Street

City

Zahedan

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Zahedan University of Medical Sciences

Full name of responsible person

Dr Noormohamad Bakhshani

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Zahedan

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

Zahedan 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

Dentistry University

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Web page address	<i>empty</i>
Sharing plan	Informed Consent Form
	<i>empty</i>
Deidentified Individual Participant Data Set (IPD)	Clinical Study Report
<i>empty</i>	<i>empty</i>
Study Protocol	Analytic Code
<i>empty</i>	<i>empty</i>
Statistical Analysis Plan	Data Dictionary
	<i>empty</i>