

Clinical Trial Protocol

Iranian Registry of Clinical Trials

13 Jun 2026

comparison the effect of 980-810 nm Diode Low Level Laser Therapy(LLLT) and contol group on post operative pain of patients who need crown lengthening surgery.

Protocol summary

Study aim

Evaluating the effect of 980-810 nano meter low level diode laser on post-operative pain of crown lengthening surgery.

Design

The clinical trial has a control group with parallel groups, one side blind and randomized based on the dice roll. For this study, 26 patients are selected. Phase one clinical trial

Settings and conduct

The surgical procedure in the peridontics ward of Ahwaz Dental School will perform blindly. At the end of crown crown lengthening surgery, in the test group low-level laser therapy will performed for 100 seconds on buccal and palatal flap surfaces from a distance of 3 mm Is used. Finally, flap edges are sutured. In the control group, the laser is used in off mode. The amount of pain is measured by two methods: the number of capsules that the patient consumes and the visual analogue scale (100 mm horizontal line that shows painless on the left and unbearable pain on the right, and the patient marks the amount of pain on it. And its amount is measured by a ruler) A form is given to the patients and in that form, after registering the surgical area, the patients record the intensity of pain and the number of analgesic capsules from the day of surgery for 7 days.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Patients require bilateral maxillary premolars crown lengthening surgery. Patients with no previous medical or surgical history and a report of systemic disease. Exclusion criteria: smokers, patients with a history of long-term use of antibiotics and corticosteroids, pregnant women.

Intervention groups

Test group: The group treated with low level laser after crown lengthening surgery. control group: The group treated with turned off low level laser after crown

lengthening surgery .

Main outcome variables

Visual analog scale, number of analgesics used, treatment group

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20201102049237N1**

Registration date: **2020-12-01, 1399/09/11**

Registration timing: **registered_while_recruiting**

Last update: **2020-12-01, 1399/09/11**

Update count: **0**

Registration date

2020-12-01, 1399/09/11

Registrant information

Name

Ali Yazdanpanah

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 61 3336 8059

Email address

aliyz.00071@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2020-11-21, 1399/09/01

Expected recruitment end date

2021-02-19, 1399/12/01

Actual recruitment start date

empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
comparison the effect of 980-810 nm Diode Low Level Laser Therapy(LLLT) and contol group on post operative pain of patients who need crown lengthening surgery.

Public title
Evaluating the effect of 980-810 nm Diode Low Level Laser Therapy(LLLT) on post operative pain of crown lengthening surgery.

Purpose
Treatment

Inclusion/Exclusion criteria
Inclusion criteria:
systematically healthy patients and without any medical history bilateral teeth need crown lengthening surgery
Exclusion criteria:
smoking patients patients who use antibiotics and cortico steroids for the long time peregrnancy

Age
From **18 years** old

Gender
Both

Phase
N/A

Groups that have been masked

- Participant

Sample size
Target sample size: **46**
More than 1 sample in each individual
Number of samples in each individual: **2**
One side of mouth is use for the test group and other side for the control group.

Randomization (investigator's opinion)
Randomized

Randomization description
Based on the dice roll, one side of the jaw will select for laser treatment and the other side will select as the control group.

Blinding (investigator's opinion)
Single blinded

Blinding description
Both the operator and the patient wear goggles and apply a low-power laser treatment area for 100 seconds on the buccal and lingual / palatal flap surfaces from a distance of 3 mm. In the control group, the laser is used in the same way, but in off mode.

Placebo
Used

Assignment
Parallel

Other design features

Secondary Ids
empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics Committee of Ahwaz Jundishapur University of Medical Sciences

Street address

golestan, esfand street

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ahvaz

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Postal code

6135715775

Approval date

2020-10-31, 1399/08/10

Ethics committee reference number

IR.AJUMS.REC.1399.632

Health conditions studied

1

Description of health condition studied

low level laser therapy

ICD-10 code

Z98.818

ICD-10 code description

Other dental procedure status

Primary outcomes

1

Description

visual analog scale (VAS)of pain

Timepoint

Day 1 to 7 after surgery.

Method of measurement

Visual Analogue Scale Questionnaire to assess pain in days 1 to 7 after surgery

2

Description

Number of analgesic drugs consumption per day

Timepoint

day 1 to 7 after surgery.

Method of measurement

Questionnaire on the number of analgesics used in days 1 to 7 after surgery

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: treated by low level laser therapy. Both the operator and the patient wear goggles, and in the treatment area, a low-level laser 980 and 810 nm quick lase laser with a power of 0.5 watts by continuous whitening handpiece for 100 seconds on the buccal and lingual / palatal flap surfaces from a distance 3 mm is used. Finally, the flap edges are surgically returned to the teeth and bones and sutured with simple or sling sutures with 0-4 silk thread.

Category

Treatment - Surgery

2

Description

Control group: low level laser therapy in off mode. Both the operator and the patient wear goggles, and in the low-power laser treatment area of 980 and 810 nm, the quick lase is applied in off mode for 100 seconds on the buccal and lingual / palatal flap surfaces from a distance of 3 mm. Finally, the flap edges are surgically returned to the teeth and bones and sutured with simple or sling sutures with 0-4 silk thread.

Category

Treatment - Surgery

Recruitment centers

1

Recruitment center

Name of recruitment center

Ahvaz Jundishapur University of medical and science ,school of dentistry

Full name of responsible person

Ali Yazdanpanah

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

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Full name of responsible person

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Grant name

Faculty members grant.

Grant code / Reference number

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

Yes

Title of funding source

Ahvaz 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

Ahvaz University of Medical Sciences

Full name of responsible person

Dr Azarnoosh Ariankia

Position

Associate professor

Latest degree

Medical doctor

Other areas of specialty/work

Dentistry

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Person responsible for scientific inquiries

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Full name of responsible person

Dr Leila Golpasandhagh

Position

Associate professor

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Specialist

Other areas of specialty/work

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Sharing plan**Deidentified Individual Participant Data Set (IPD)**

Yes - There is a plan to make this available

Study Protocol

Yes - There is a plan to make this available

Statistical Analysis Plan

Yes - There is a plan to make this available

Informed Consent Form

No - There is not a plan to make this available

Clinical Study Report

Not applicable

Analytic Code

Not applicable

Data Dictionary

Not applicable

Title and more details about the data/document

visual analog scale

When the data will become available and for how long

Access period starts 6 months after the results are published.

To whom data/document is available

Researchers working in academic and scientific institutions

Under which criteria data/document could be used

Researchers working in academic and scientific institutions

From where data/document is obtainable

dr ali yazdanpanah 00989177043707

What processes are involved for a request to access data/document

call 00989177043707

Comments**Person responsible for updating data****Contact****Name of organization / entity**

Ahvaz University of Medical Sciences

Full name of responsible person

Ali Yazdanpanah

Position

Post graduated student of periodontics

Latest degree

Medical doctor

Other areas of specialty/work

Dentistry

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