

Clinical Trial Protocol

Iranian Registry of Clinical Trials

16 Jul 2026

Comparison of the Antimicrobial Efficacy of Calcium Hydroxide and Photodynamic Therapy against Enterococcus faecalis and candida albicans in Teeth with Periapical Lesions; an in vivo study

Protocol summary

Summary

Background and Objectives: This study aimed to compare the antimicrobial efficacy of calcium hydroxide (CH) as a intracanal medication and photodynamic therapy (PDT) against E.faecalis and Candida albicans in teeth with periapical (PA) lesions. Methods: this in-vivo study was conducted on twenty patients with single-rooted mandibular premolar with previously failed endodontic treatment. After the conventional chemo-mechanical root canal preparation (hand and rotary instruments and 2.5% NaOCL), microbiological samples were obtained using sterile paper points, stored in thioglycolate solution and transferred to a microbiology laboratory. Group 1 (n=10) specimens underwent PDT(diode laser 810 nm+50 mg/ml methylene blue) and Creamy CH paste was used in group 2 for one week. A second sample was taken with sterile paper points. The samples were dispersed in transport medium, serially diluted, and cultured on selective mediums (Bile esculinazide agar for E.faecals and Sabouraud dextrose agar for candida albicans) to determine the number of colony forming units (CFU).

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2016090429686N1**
Registration date: **2016-11-29, 1395/09/09**
Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2016-11-29, 1395/09/09

Registrant information

Name

Mohammad Asnaashari

Name of organization / entity

Shahid beheshti university of medical sciences

Country

Iran (Islamic Republic of)

Phone

+98 21 2217 5350

Email address

m-asnaashari@sbmu.ac.ir

Recruitment status

Recruitment complete

Funding source

The laser application in medical sciences research center, Shahid Beheshti University of Medical Sciences

Expected recruitment start date

2014-03-01, 1392/12/10

Expected recruitment end date

2014-05-01, 1393/02/11

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of the Antimicrobial Efficacy of Calcium Hydroxide and Photodynamic Therapy against Enterococcus faecalis and candida albicans in Teeth with Periapical Lesions; an in vivo study

Public title

Antimicrobial efficacy of calcium hydroxide and photodynamic therapy

Purpose

Supportive

Inclusion/Exclusion criteria

Inclusion criteria were optimal general health and having a mandibular premolar with a PA lesion on the primary radiograph two years after its primary endodontic treatment. Patients with broken tooth, ledge, over-filling, transportation, root resorption or perforation were excluded.

Age

From **20 years** old to **60 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **20**

Randomization (investigator's opinion)

Randomized

Randomization description

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

1

Registry name

universal trial number

Secondary trial Id

U1111-1188-0043

Registration date

2016-09-26, 1395/07/05

Ethics committees

1

Ethics committee

Name of ethics committee

Laser Application in Medical Sciences Research Center, Shahid Beheshti University of Medical Science

Street address

Shohada Tajrish hospital, Tajrish Sq., Tehran, Iran

City

Tehran

Postal code

Approval date

2010-08-20, 1389/05/29

Ethics committee reference number

IR.SBMU.REC.1392.320

Health conditions studied

1

Description of health condition studied

Teeth with Periapical Lesions

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Intera canal microbial load

Timepoint

One week

Method of measurement

CFU/ml

Secondary outcomes

empty

Intervention groups

1

Description

The effect of calcium hydroxide therapy on the experimental group

Category

Treatment - Drugs

2

Description

The effect of low level laser treatment on groups

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Endodontic Department, Shahid Beheshti University of Medical Sciences

Full name of responsible person

Street address

City

Tehran

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Laser Application in Medical Sciences Research Center, Shahid Beheshti University of Medical Science

Full name of responsible person

Ms Razzaghi

Street address

Shohada Tajrish hospital, Tajrish Sq.

City

Tehran

Grant name**Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

Title of funding source

Laser Application in Medical Sciences Research Center,
Shahid Beheshti University of Medical Science

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**

Endodontic Department, Shahid Beheshti University
of Medical Sciences

Full name of responsible person

Maryam Mojtahedbidabadi

Position

Assistant professor

Other areas of specialty/work**Street address**

Endodontic Department, Shahid Beheshti University
of Medical Sciences, Daneshjoo Blvd., Velenjak St.,
Chamran Highway

City

Tehran

Postal code**Phone**

+98 21 2217 5350

Fax**Email**

maryam.mojtahed@yahoo.com

Web page address**Person responsible for scientific inquiries****Contact****Name of organization / entity**

Endodontic Department, Shahid Beheshti University
of Medical Sciences

Full name of responsible person

Mohammad Asnaashari

Position

Professor

Other areas of specialty/work**Street address**

Endodontic Department, Shahid Beheshti University
of Medical Sciences, Daneshjoo Blvd., Velenjak St.,
Chamran Highway

City

Tehran

Postal code**Phone**

+98 21 2217 5350

Fax**Email**

m-asnaashari@sbmu.ac.ir

Web page address**Person responsible for updating data****Contact****Name of organization / entity**

Endodontic Department, Shahid Beheshti University
of Medical Sciences

Full name of responsible person

Maryam Mojtahedbidabadi

Position

Assistant professor

Other areas of specialty/work**Street address**

Endodontic Department, Shahid Beheshti University
of Medical Sciences, Daneshjoo Blvd., Velenjak St.,
Chamran Highway

City

Tehran

Postal code**Phone**

+98 21 2217 5350

Fax**Email**

maryam.mojtahed@yahoo.com

Web page address**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