

Clinical Trial Protocol

Iranian Registry of Clinical Trials

28 May 2026

Clinical trial of comparison between Nd:YAG laser and Propolis in treatment of dental sensitivity in patients with dentin hypersensitivity

Protocol summary

Summary

The aim of this clinical study is comparative evaluation of two treatment methods including Nd:YAG laser and 40% Propolis gel to improve dentin hypersensitivity (DH) symptoms. 25 patients with DH are selected using simple sampling method. Sensitive teeth of one side are treated with Nd:YAG laser and those of the other side are treated with Propolis gel through split mouth design. The received treatment on each side of the Patients' mouth, will be determined through random numbers table. 12 patients receive laser treatment for their sensitive teeth in right side and propolis gel for their sensitive teeth in left side; and 13 patients contrariwise. Each patient receives three sessions with one week interval and is finally followed up by a blind specialist after one and three month. A Visual Analog Scale (VAS) is used to assess the amount of sensitivity at baseline, during and after treatment. Simulation of opposite side treatment in each side is in this way that fiber tip of laser device is held in off state in propolis treatment side with same time of laser treatment side and just the beep sound of device can be heard. Also the use of wet micro brush without impregnating with propolis in laser treatment side simulates the propolis application. So the study is carried out in double-blind situation. Inclusion criteria are having at least two hypersensitive teeth in two sides of mouth, no periodontal surgery within last 3 months and no desensitizing therapy within last 1 month. Patients who do not participate in all sessions are removed from this study. Finally the effect of tow treatments in decreasing DH will be compared.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2016111230858N1**

Registration date: **2017-03-23, 1396/01/03**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2017-03-23, 1396/01/03

Registrant information

Name

Maryam Rasti

Name of organization / entity

Shahid Sadoughi University Of Medical Science

Country

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Email address

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Recruitment status

Recruitment complete

Funding source

Vice chancellor for research, Yazd University of Medical Sciences

Expected recruitment start date

2016-03-19, 1394/12/29

Expected recruitment end date

2017-03-19, 1395/12/29

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Clinical trial of comparison between Nd:YAG laser and Propolis in treatment of dental sensitivity in patients with dentin hypersensitivity

Public title

effect of laser and Propolis in treatment of dentin hypersensitivity

Purpose

Treatment

Inclusion/Exclusion criteria

inclusion criteria: having at least two hypersensitive teeth in two sides of mouth (one right and one left); age of ≥ 18 years; vitality of examined teeth; no carious lesions; fractures or cracks and restorations in examined teeth
exclusion criteria: patient absent in follow up appointments; systemic diseases; Pregnancy; periodontal surgery within last 3 months; orthodontic treatment in that same course; desensitizing therapy within last 1 month; existing of pulpitis and crown in examined teeth

Age

From **18 years** old to **100 years** old

Gender

Both

Phase

3

Groups that have been masked

No information

Sample size

Target sample size: **25**

Randomization (investigator's opinion)

Randomized

Randomization description**Blinding (investigator's opinion)**

Double blinded

Blinding description**Placebo**

Used

Assignment

Parallel

Other design features

Randomization is done using random numbers table to determine the kind of treatment in right or left side of patients' mouth. Therefore some patients receive laser treatment in right and Propolis gel in left side, and other patients receive conversely treatment. Because of one type treatment on right sensitive teeth and one other type on left sensitive teeth in each patient, this design study is called split mouth.

Secondary Ids

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Ethics committee of Yazd University of Medical Sciences

Street address

Central Organism of Medical University of Yazd, Shahid Bahonar Square, Yazd

City

Yazd

Postal code

8916978477

Approval date

2016-09-22, 1395/07/01

Ethics committee reference number

IR.SSU.REC.1395.136

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

dentin hypersensitivity

ICD-10 code

K03.8

ICD-10 code description

Other specified diseases of hard tissues of teeth

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

dentin hypersensitivity

Timepoint

before treatment and immediately after, one week after, two weeks after, one month after and finally three months after treatment

Method of measurement

VAS (visual analog scale)

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

-

Timepoint

-

Method of measurement

-

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

laser radiation in cervical area of sensitive teeth in three sessions with one week intervals. Nd:YAG laser with 1064 nanometer wavelength, 1W power, 10 Hz frequency, short pulse mode, 300 μ m fiber tip was used for a time of 60 sec on each tooth.

Category

Treatment - Devices

2**Description**

40% Propolis gel applying in cervical area of sensitive teeth in three sessions with one week interval

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center
Dental School, Daheye Fajr Street, Yazd

Full name of responsible person
maryam Rasti

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Other areas of specialty/work

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Vice Chancellor for research of Yazd University of Medical Sciences

Full name of responsible person
Dr. Amir Hooshang Mehrparvar

Street address
Department of Research and Technology, third floor of the University Central Building, South Shahid Sadughi street, Bahonar Square, Yazd

City
Yazd

Grant name
-

Grant code / Reference number
-

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

Title of funding source
Vice Chancellor for research of Yazd 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 collage of Yazd

Full name of responsible person
Maryam Rasti

Position
Postgraduate Student, Department of Operative Dentistry

Person responsible for scientific inquiries

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Person responsible for updating data

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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