Clinical Trial Protocol
Iranian Registry of Clinical Trials

16 Sep 2026

Histological Evaluation of Pulp Tissue Following Direct Pulp Capping with Propolis and Dycal

Protocol summary

Summary

The aim of present study sought to histologically assess and compare pulp tissue following pulp capping with propolis and Dycal A cavity was prepared in the center of the occlusal surface of 10 human third molars that no traumatic, carious, periapical or periodontal lesions existed using a cylindrical bur. The pulp was exposed with a round bur. Samples were randomly divided into two groups. The first group underwent direct pulp capping with propolis and the second group with Dycal. Autopolymerizing glass ionomer was then applied to seal the area. The teeth were extracted after 45 days and histologically evaluated. presence of inflammation, its severity, formation of dentinal bridge and its quality and quantity and presence of odontoblast-like cells were assessed

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2013031712832N1**
Registration date: **2013-06-09, 1392/03/19**
Registration timing: **registered_while_recruiting**

Last update:
Update count: **0**

Registration date

2013-06-09, 1392/03/19

Registrant information

Name

Zohreh Ahangari

Name of organization / entity

Dental school shahid Beheshti Medical university of Medical Sciences

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

private

Expected recruitment start date

2013-05-01, 1392/02/11

Expected recruitment end date

2013-11-01, 1392/08/10

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Histological Evaluation of Pulp Tissue Following Direct Pulp Capping with Propolis and Dycal

Public title

Propolis effect on dental pulp

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: Vital third molars Exclusion criteria: Previous trauma; carious lesion; periapical lesions; periodontal lesions

Age

From **20 years** old to **28 years** old

Gender

Both

Phase

0

Groups that have been masked

No information

Sample size
Target sample size: **10**
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

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Vice chancellor for research of Dental School of Shahid Beheshti University of Medical Sciences
Street address
Daneshjoo Blvd، Evin
City
Tehran
Postal code
Approval date
2012-09-22, 1391/07/01
Ethics committee reference number
-

Health conditions studied

1

Description of health condition studied
Dental carries and Pulp involvment
ICD-10 code
K02.8
ICD-10 code description
K02.8 Other dental caries

2

Description of health condition studied
Dental carries and Pulp involvment
ICD-10 code
K04.3
ICD-10 code description
Abnormal hard tissue formation in pulp

Primary outcomes

1

Description
Direct pulp cap
Timepoint
45
Method of measurement
Histologic Evaluation

Secondary outcomes

1

Description
Severity of inflammation
Timepoint
After 45 days
Method of measurement
Histologic Evaluation

2

Description
Quality of newly formed dentin, Quantity of the newly formed dentin,
Timepoint
After 45 days
Method of measurement
Histologic Evaluation

3

Description
Presence of odontoblast-like cells
Timepoint
After 45 days
Method of measurement
Histologic Evaluation

Intervention groups

1

Description
The teeth were disinfected Local anesthesia was induced, rubber dam was placed and an occlusal cavity was prepared using a sterile cylindrical diamond bur and high speed hand piece with air-water spray as the coolant. The prepared cavity measured 3-3.5 mm in depth, 4-4.5 mm in mesiodistal width and 3-3.5 mm in buccolingual width. The mentioned measurements were done using a periodontal probe. Pulp chamber was exposed at the center of the pulp chamber roof using a round diamond bur with air-water spray. Hemostasis was achieved by mild pressure of a moist cotton ball at the exposure site. The exposure site was then completely dried with a dry cotton ball. This procedure was repeated until achieving complete hemostasis. If hemostasis was not achieved after 5 minutes of using a cotton ball, the sample was excluded from the study. The teeth were divided into two groups of 5 samples each. The exposure site in group one was covered with Dycal (control groups)
Category
Treatment - Drugs

2

Description

The teeth were disinfected . Local anesthesia was induced, rubber dam was placed and an occlusal cavity was prepared using a sterile cylindrical diamond bur and high speed hand piece with air-water spray as the coolant. The prepared cavity measured 3-3.5 mm in depth, 4-4.5 mm in mesiodistal width and 3-3.5 mm in buccolingual width. The mentioned measurements were done using a periodontal probe. Pulp chamber was exposed at the center of the pulp chamber roof using a round diamond bur with air-water spray. Hemostasis was achieved by mild pressure of a moist cotton ball at the exposure site. The exposure site was then completely dried with a dry cotton ball. This procedure was repeated until achieving complete hemostasis. If hemostasis was not achieved after 5 minutes of using a cotton ball, the sample was excluded from the study. The teeth were divided into two groups of 5 samples each in group two with propolis(experimental groups).

Category

Treatment - Drugs

Recruitment centers

1

Recruitment center

Name of recruitment center

Endodontic Dept. of Dental school of Shahid Beheshti University of Medical Sciences

Full name of responsible person

Dr zohreh ahangari

Street address

Daneshjoo Blvd، Evin

City

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Dental school of Shahid Beheshti University of Medical Sciences

Full name of responsible person

Dr maryam moezizadeh

Street address

Daneshjoo Blvd، Evin

City

Tehran

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Dental school of Shahid Beheshti 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

Dental school of Shahid Beheshti University of Medical Sciences

Full name of responsible person

Dr Zohreh Ahangari

Position

Associate Professor، Endodontist

Other areas of specialty/work

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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