

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

Comparison of anesthetic efficacy of 4% articaine and 2% Lidocaine for maxillary Buccal infiltration in patients with irreversible pulpitis. a randomized double- blinded clinical trial

Protocol summary

Summary

This study was to compare the success rate of using two local anesthesia solutions for endodontic treatment of first maxillary molars with irreversible pulpitis. In a randomized double-blinded clinical Trial, fifty patients were randomly assigned to 2 groups of 25 patients each. The exclusion criteria are the presence of systemic disorders; a sensitivity to articaine and lidocaine, and the inclusion criteria included healthy patients having a first maxillary molar teeth with irreversible pulpitis and normal periapical radiographic appearance. Group I patients received a buccal infiltration with 1.8 mL of 2% lidocaine with 1:80000 epinephrine. Group II patients received 1.8 mL of 4% articaine with 1:100000 epinephrine as a buccal infiltration. A visual analogue scale was used to rate pain before anesthesia and discomfort experienced before and during access cavity preparation. Data were analyzed by Tow way repeated measure ANOVA and chi square tests.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201204302016N5**

Registration date: **2013-11-23, 1392/09/02**

Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2013-11-23, 1392/09/02

Registrant information

Name

Masoud Parirokh

Name of organization / entity

Kerman University of Medical Sciences

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Recruitment status

Recruitment complete

Funding source

Vce chancellor for research, Kerman University of Medical Sciences

Expected recruitment start date

2013-11-22, 1392/09/01

Expected recruitment end date

2014-03-16, 1392/12/25

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of anesthetic efficacy of 4% articaine and 2% Lidocaine for maxillary Buccal infiltration in patients with irreversible pulpitis. a randomized double- blinded clinical trial

Public title

Comparison of anesthetic efficacy of 4% articaine and 2% Lidocaine for maxillary Buccal infiltration in patients with irreversible pulpitis. a randomized double- blinded clinical trial

Purpose

Treatment

Inclusion/Exclusion criteria

The exclusion criteria were the presence of systemic

disorders; a sensitivity to articaine 4% with 1:100000 epinephrine and lidocaine 2% with 1:80,000 epinephrine; the presence of widening of the periodontal ligament space; the presence of a periapical radiolucency; lactation; pregnancy. Inclusion criteria included healthy patients having a first maxillary molar tooth with irreversible pulpitis and normal periapical radiographic appearance, without spontaneous pain that would need emergency treatment.

Age

From **18 years** old to **80 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **50**

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

Kerman University of Medical Sciences

Street address

Somaye cross road, Vice chancellor for research building; Kerman University of Medical Sciences

City

Kerman

Postal code

Approval date

2013-05-06, 1392/02/16

Ethics committee reference number

ka/92/114

Health conditions studied

1

Description of health condition studied

irreversible pulpitis

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Pain degree

Timepoint

Before and after intervention

Method of measurement

Visual Analogous Scale (VAS)

Secondary outcomes

empty

Intervention groups

1

Description

Buccal infiltration injection of one cartridge (1.8 ml) articaine 4%

Category

Treatment - Drugs

2

Description

Buccal infiltration injection of one cartridge (1.8 ml) lidocaine 2%

Category

Treatment - Drugs

Recruitment centers

1

Recruitment center

Name of recruitment center

Kerman University of Medical Sciences, School of Dentistry

Full name of responsible person

Hamid Reza Hosseini

Street address

Jomhori Eslami Bloubvared, Shafa str, Dental School of Kerman University of Medical Sciences

City

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice chancellor for research; Kerman University of Medical Sciences

Full name of responsible person

Reza Malekpour Afshar

Street address

Vice chancellor for research, Kerman University of Medical Sciences, Somaye cross road

City
Kerman

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; Kerman 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
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Full name of responsible person
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Position
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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