

Clinical Trial Protocol

Iranian Registry of Clinical Trials

11 Jul 2026

The Hemodynamic Properties of Different Anesthetic Agents in Endodontic Therapy

Protocol summary

Summary

The purpose of this clinical trial was comparative evaluation of hemodynamic effects of various local anesthetics after injection for endodontic treatment. The patients must need endodontic treatment for premolar or molar teeth at same side of injection. They shouldn't have had any systemic condition, history of any drug in last week, pregnancy and anxiety. 80 healthy participants between 18 and 50 years of age were selected. Interventions were Lidocaine 2% + Epinephrine 1/100000, Prilocaine 3% + 0.03 IU/ml felypressin, Articaine 4% + Epinephrine 1/100000 and Mepivacaine 3%. The hemodynamic parameters including systolic and diastolic blood pressure (BP) and heart rate (HR) were recorded at 7 stages using an electrocardiogram. Stage 1: upon entrance into the office, stage 2: 15 minutes after the patient was seated, stage 3: immediately before the injection, stages 4-7: immediately, 5, 10 and 15 minutes after the injection. Changes of systolic and diastolic BP, heart rate and arrhythmia were studied.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2014011316210N1**
Registration date: **2014-04-13, 1393/01/24**
Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2014-04-13, 1393/01/24

Registrant information

Name

Farahnaz Dadgar

Name of organization / entity

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Recruitment status

Recruitment complete

Funding source

Zahedan University of Medical Sciences

Expected recruitment start date

2010-10-23, 1389/08/01

Expected recruitment end date

2011-03-20, 1389/12/29

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The Hemodynamic Properties of Different Anesthetic Agents in Endodontic Therapy

Public title

evaluation of cardiovascular properties of Different Anesthetic Agents in root canal Therapy

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: having health and at least one mandibular molar or premolar painful tooth; requiring endodontic therapy on the side of injection. Exclusion criteria: patients reporting history of any systemic condition; history of any drug in last week; pregnancy and anxiety.

Age

From **17 years** old to **50 years** old

Gender

Both

Phase

N/A

Groups that have been masked*No information***Sample size**Target sample size: **80****Randomization (investigator's opinion)**

Randomized

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

Triple blinded

Blinding description**Placebo**

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

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

Zahedan University of Medical of Sciences

Street address

Hesabi Sq, Zahedan, Iran

City

Zahedan

Postal code

98167434630

Approval date

2010-09-23, 1389/07/01

Ethics committee reference number

2871

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

Endodontic treatment

ICD-10 code**ICD-10 code description****Primary outcomes****1****Description**

heart rate

Timepoint

Stage 1: Upon entrance into the office, Stage 2: 15 minutes after the patient was seated, Stage 3: immediately before the injection, Stages 4-7:

immediately, 5, 10 and 15 minutes after the injection

Method of measurement

a monitoring device (1800, Saadat)

2**Description**

arythmia

Timepoint

Stage 1: Upon entrance into the office, Stage 2: 15 minutes after the patient was seated, Stage 3: immediately before the injection, Stages 4-7: immediately, 5, 10 and 15 minutes after the injection

Method of measurement

a monitoring device (1800, Saadat)

3**Description**

systolic blood pressure

Timepoint

Stage 1: Upon entrance into the office, Stage 2: 15 minutes after the patient was seated, Stage 3: immediately before the injection, Stages 4-7: immediately, 5, 10 and 15 minutes after the injection

Method of measurement

a monitoring device (1800, Saadat)

4**Description**

diastolic blood pressure

Timepoint

Stage 1: Upon entrance into the office, Stage 2: 15 minutes after the patient was seated, Stage 3: immediately before the injection, Stages 4-7: immediately, 5, 10 and 15 minutes after the injection

Method of measurement

a monitoring device (1800, Saadat)

Secondary outcomes

empty

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

inferior alveolar nerve block using one cartridge of Lidocaine 2% + Epinephrine 1: 80000 in 7 stages

Category

Treatment - Drugs

2**Description**

inferior alveolar nerve block using one cartridge of Prilocaine 3% + 0.03 IU/ml felypressin in 7 stages

Category

Treatment - Drugs

3

Description

inferior alveolar nerve block using one cartridge of Articaïne 4% + Epinephrine 1: 100000in 7 stages

Category

Treatment - Drugs

4

Description

inferior alveolar nerve block using one cartridge of Mepivacaine 3% in 7 stages

Category

Treatment - Drugs

5

Description

The participants in each group by measurments before internention are themselves control.

Category

Treatment - Drugs

Recruitment centers

1

Recruitment center

Name of recruitment center

Zahedan Dentistry Faculty

Full name of responsible person

Farahnaz Dadgar

Street address

Mehr Street, Zahedan, Iran

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Zahedan University of Medical Sciences

Full name of responsible person

Mohsen Taheri

Street address

Hesabi Sq, Zahedan,Iran

City

Zahedan

Grant name

125401

Grant code / Reference number

125401

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

Yes

Title of funding source

Zahedan 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

Farahnaz Dadgar

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