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/: 80000, Prilocaine3% +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

Zahedan University of Medical Sciences

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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 heaith 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 wee; 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 Prilocaine3% +0.03 IU/ml felypressin in 7 stages
Category
Treatment - Drugs

3

Description
inferior alveolar nerve block using one cartridge of Articaine 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 Facualty
Full name of responsible person
Farahnaz Dadgar
Street address
Mehr Street, Zahedan, Iran
City
Zahedan

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
Zahedan University of Medical Sciences
Full name of responsible person
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Person responsible for scientific inquiries

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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