Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Comparison of Success Rate of Inferior Alveolar Nerve Block versus IntraOsseous Injection For Pulpal Anesthesia in The Posterior Mandibular Teeth with Irreversible Pulpitis in patients attending to Afzal dental clinic, Isfahan, Iran 1391-92

Protocol summary

Summary

Aim: To compare the success rate of inferior alveolar nerve block (IANB) versus intraosseous (IO) injection for pulpal anesthesia in the posterior mandibular teeth with irreversible pulpitis in patients attending to Afzal dental clinic in order to replace the IO as a primary anesthesia in pulp therapy Design: An interventional randomized single-blinded study, unicenteric, with control group and without placebo Method: 50 patients aged 18 to 65 years old with at least one posterior mandibular tooth with irreversible pulpitis for pulp therapy enrolled voluntarily to the study since 2012 to 2013. They should not have any history of taking any medication that would alter the inflammatory response of the pulp or provide analgesia for the previous 14 days. Any history of alergy to anesthetic solutions causes to exclusion of the patient. Patients divided to two groups randomly. For the case group, primary pulpal anesthesia will provide with Intra Osseous injection of Mepivacaine 3%. For the control group, primary pulpal anesthesia will provide with Inferior Alveolar Nerve Block injection of Mepivacaine 3%. Effect onset of anesthesia, persistence of anesthesia, degree of pain during pulp therapy and blood pressure changes after anesthesia injection will be evaluated and the results will be compared between two groups.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2013022712634N1**
Registration date: **2013-12-25, 1392/10/04**
Registration timing: **retrospective**
Last update:
Update count: **0**

Registration date

2013-12-25, 1392/10/04

Registrant information

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Recruitment status

Recruitment complete

Funding source

Vice Chancellor for research, Isfahan University of Medical Sciences

Expected recruitment start date

2012-10-05, 1391/07/14

Expected recruitment end date

2013-10-06, 1392/07/14

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of Success Rate of Inferior Alveolar Nerve Block versus IntraOsseous Injection For Pulpal Anesthesia in The Posterior Mandibular Teeth with Irreversible Pulpitis in patients attending to Afzal dental clinic,

Isfahan, Iran 1391-92

Public title
Comparison of Anesthesia Success Rate in Mandibular Inflammatory Tooth Between two Different Injection Techniques
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria: 1) Patients with at least one posterior mandibular tooth with irreversible pulpitis for pulp therapy that each pulp therapy would be appliable thoroughly in one visit; 2) No history of taking any medication that would alter the inflammatory response of the pulp or provide analgesia for the previous 14 days; 3) No history of major systemic or cardiovascular disease; 4) Patients aged 18 to 65 years old; 5) Absence of acute inflammation and advanced periodontal disease at the injection area; 6) Provision written informed consent; Exclusion criteria: 1) Any history of alergy to anesthetic solutions; 2) lack of cooperation or interest of patient to continue the study.
Age
From **18 years** old to **65 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)
Single blinded
Blinding description
Placebo
Not used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Bioethics Committee of Isfahan University of Medical Sciences
Street address
Building number 4, Isfahan University of Medical Sciences, Hezar Jarib Ave
City
Isfahan
Postal code
Approval date
2012-06-12, 1391/03/23
Ethics committee reference number
391473

Health conditions studied

1

Description of health condition studied
tooth with irreversible pulpitis
ICD-10 code
k04.0
ICD-10 code description
Pulpitis: NOS acute chronic (hyperplastic)(ulcerative) irreversible reversible

Primary outcomes

1

Description
Success of the Anesthesia
Timepoint
After the Injection and during root canal therapy (RCT)
Method of measurement
Vitality pulp test (pulp tester and endo ice) before RCT and questioning from patients during RCT

2

Description
Pain
Timepoint
During injection of Anesthetic solution
Method of measurement
Heft-parker visual Analogue Scale

3

Description
Blood Pressure
Timepoint
Before and After Anesthetic injection
Method of measurement
Digital indicator -mmhg

4

Description
Onset of Anesthesia
Timepoint
After the injection with 1-minute intervals for a period of 15 minutes
Method of measurement
Vitality pulp test (pulp tester and endo ice)

5

Description
Duration of Anesthesia
Timepoint

From the beginning to the end of RCT

Method of measurement

Asking from the patients

Secondary outcomes

1

Description

Hematoma

Timepoint

One hour after the injection

Method of measurement

Observation

Intervention groups

1

Description

For the first group, primary pulpal anesthesia will provide with Intra Osseous injection of Mepivacaine 3%

Category

Treatment - Other

2

Description

For the second group, primary pulpal anesthesia will provide with Inferior Alveolar Nerve Block injection of Mepivacaine 3%

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Afzal dental clinic

Full name of responsible person

Razavian Seyyedhamid

Street address

Afzal dental clinic, Soroosh ave, Ahmad Abad Square, Isfahan

City

Isfahan

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice chancellor for research, Isfahan University of Medical Sciences

Full name of responsible person

Dr. Omid Savabi

Street address

Vice chancellor for research, Building number 4 , central organ of university, Isfahan university of medical science, Hezar Jarib Ave

City

Isfahan

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, Isfahan 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

Isfahan University of Medical Sciences

Full name of responsible person

Shafeie Maryam

Position

Student of dentistry

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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