Clinical Trial Protocol
Iranian Registry of Clinical Trials

09 Nov 2026

Comparative efficacy of Gow-Gates and Inferior alveolar nerve block on success rate of anesthesia in patients with symptomatic irreversible pulpitis

Protocol summary

Summary

Objectives: The aim of this study is to assess the efficacy of Gow-Gates and inferior alveolar nerve block on success rate of anesthesia in patients with irreversible pulpitis. Design: Prospective, randomized, double blind study Setting and conduct: Forty patients with including criteria who failed to infra alveolar nerve block will be randomly divided into two groups on a random basis and will receive Gow-Gates or another inferior alveolar nerve block injection. Their pain will be evaluated by electric pulp tester every 5 minutes for two times. Endodontic access cavity preparation will be initiated after complete anesthesia. If patients feel any pain during the Endodontic access cavity preparation or canal instrumentation treatment will be stopped and their pain will be measured by Visual Analog Scale. The patients will be instructed to rate any pain during each step of access cavity preparation, within dentin, and when a file is being inserted into the root canals. The data will be analysed by Mann-U-Whitney and CHI- SQUARE tests. Participants including major eligibility criteria:Patients with symptomatic irreversible pulpitis (Visual Analog Scale ≥ 54); without systemic diseases; non smoking and analgesic/sedative consumption who receive one conventional inferior alveolar nerve block and their block is failed (without lip numbness). Intervention: Gow Gates or Infra Alveolar Nerve Block injection. Main outcome measures (variables): The rate of pain during each step of access cavity preparation, within dentin, and when a file is being inserted into the root canals will be measures based on visual analog scale following Gow-Gates /infra alveolar nerve block injections.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2014030516845N1**
Registration date: **2015-06-30, 1394/04/09**
Registration timing: **retrospective**

Last update:
Update count: **0**

Registration date

2015-06-30, 1394/04/09

Registrant information

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Nahid Akhlaghi
Name of organization / entity
Tehran Dental Branch Islamic Azad University
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Recruitment status

Recruitment complete

Funding source

Investigaror

Expected recruitment start date

2015-03-01, 1393/12/10

Expected recruitment end date

2015-06-21, 1394/03/31

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparative efficacy of Gow-Gates and Inferior alveolar

nerve block on success rate of anesthesia in patients with symptomatic irreversible pulpitis

Public title
Comparative efficacy of two injection methods on success rate of dental anesthesia
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion Criteria: patients with age ranged 18-65; without systemic diseases ; without any medicine consumption; non smoking; non pregnant; non breast feeding; with symptomatic irreversible pulpitis (Visual Analog Scale ≥ 54); failed to anesthesia after receiving one conventional infra alveolar nerve block (without lip numbness)
Age
From **18 years** old to **65 years** old
Gender
Both

Phase
2
Groups that have been masked
No information
Sample size
Target sample size: **40**
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
Ettics committee of Islamic Azad University, Tehran dental Branch
Street address
Pasdaran Ave,10th Neyestan
City
Tehran
Postal code
19468
Approval date
2014-11-30, 1393/09/09
Ethics committee reference number
D/266/P

Health conditions studied

1

Description of health condition studied
Patients without systemic diseases or medicine consumption
ICD-10 code
ICD-10 code description

Primary outcomes

1

Description
Anesthesia following the injection
Timepoint
5 Minutes
Method of measurement
Electric pulp tester and cold test

Secondary outcomes

1

Description
Root Canal treatment without pain
Timepoint
Caries removal, access cavity preparation and canal preparation procedures
Method of measurement
Pain rate based on VAS

Intervention groups

1

Description
Gow-Gates injection with one dose 1.7 mL Articaine 4% with adrenaline 1/100,000
Category
Treatment - Drugs

2

Description
Infra Alveolar Nerve Block injection with one dose 1.7 mL Articaine 4% with adrenaline 1/100,000
Category
Treatment - Drugs

Recruitment centers

1

Recruitment center
Name of recruitment center
Islamic Azad University Tehran Dental Branch
Full name of responsible person
Dr Nahid Mohammadzadeh Akhlaghi
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Pasdaran Ave, 10th Neyestan

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice Chanceller for Research,Dental Branch Islamic Azad University

Full name of responsible person

Arash Azizi

Street address

no 4, 10th neyestan

City

Tehran

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Vice Chanceller for Research,Dental Branch Islamic Azad University

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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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