Clinical Trial Protocol
Iranian Registry of Clinical Trials

15 Nov 2026

A comparative onset and duration of anesthetic of articaine 4% with epinephrine 1:100000 and lidocaine 2% with epinephrine 1:80000 with AMSA nerve block in anterior and premolar teeth

Protocol summary

Summary

The aim of this Randomized, Double blind, Cross over clinical trial is comparing the onset and duration of anesthetic effect of Anterior Middle Superior Alveolar (AMSA) nerve block using Articaine 4% with epinephrine 1:100000 and Lidocaine 2% with epinephrine 1:80000 in anterior and premolar teeth. Sixteen male/female volunteers ranging 18 to 65 years old which have at least 3 intact incisors, canine and premolars in each quadrant, including the study. The base line sensitivity of each tooth will determine by electric and cold tests. In first session, the AMSA block will perform by 0.9 ml Lidocaine and after one week the block will repeat by the same volume of Articaine. The onset of anesthesia will consider where both the electric and cold tests respond negatively and every one minute the tests will continue till the positive response to one of the the test regain, and the time will consider for the end of anesthesia.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2017041815782N5**
Registration date: **2017-07-17, 1396/04/26**
Registration timing: **prospective**

Last update:
Update count: **0**

Registration date

2017-07-17, 1396/04/26

Registrant information

Name

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Name of organization / entity

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Recruitment status

Recruitment complete

Funding source

Investigator

Expected recruitment start date

2017-08-23, 1396/06/01

Expected recruitment end date

2017-12-21, 1396/09/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

A comparative onset and duration of anesthetic of articaine 4% with epinephrine 1:100000 and lidocaine 2% with epinephrine 1:80000 with AMSA nerve block in anterior and premolar teeth

Public title

A comparative effiicacy of two anesthetics in teeth anesthesia

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: patients between 18 and 65 years; patients with minimum one healthy tooth quadrant
Exclusion criteria: allergy to local anesthetic agents; history of systemic disease; pregnancy and lactation;

take any CNS depressants including alcohol or any analgesic medication within the last 24 h; have pulp and preapical disease; using tobacco products

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: **16**

Randomization (investigator's opinion)
Randomized

Randomization description

Blinding (investigator's opinion)
Double blinded

Blinding description

Placebo
Not used

Assignment
Crossover

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Ethics Committee of Tehran Medical Science Branch, Islamic Azad University

Street address
No.4, Neyestan 10 Alley, Pasdaran Street

City
Tehran

Postal code

Approval date
2017-03-12, 1395/12/22

Ethics committee reference number
د/113/پ

Health conditions studied

1

Description of health condition studied
local anesthesia

ICD-10 code
Y48.3

ICD-10 code description
Local anaesthetics

Primary outcomes

1

Description
duration of anesthesia

Timepoint
in one minutes

Method of measurement
minute-hand clock

2

Description
onset of anesthesia

Timepoint
in one minutes after injection

Method of measurement
minute-hand clock

Secondary outcomes

empty

Intervention groups

1

Description
Injection of 0.9 ml Lidocaine 2% with epinephrine 1:80000 with AMSA technique in 60 seconds.

Category
Treatment - Drugs

2

Description
Injection of 0.9 ml Articaine 4% with epinephrine 1:100000 with AMSA technique in 60 seconds.

Category
Treatment - Drugs

Recruitment centers

1

Recruitment center

Name of recruitment center
Tehran Medical science Branch,Islamic Azad University

Full name of responsible person
Sohrab Tour Savadkouhi

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No.4, Neyestan10 Alley, Pasdaran Street

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Tehran Medical Science Branch, Islamic Azad

University

Full name of responsible person
Nava VakiliNejad

Street address
No.4, Neyestan10 Alley, Pasdaran Street

City
Tehran

Grant name

Grant code / Reference number

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

Title of funding source
Tehran Medical Science 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
Tehran Medical Science Branch, Islamic Azad University

Full name of responsible person
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Position
Associate Professor/ DDS,Ms

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