

Clinical Trial Protocol

Iranian Registry of Clinical Trials

09 Jul 2026

Comparative study of pain, swelling and trismus after mandibular impacted third molar tooth surgery with conventional sutured and sutureless technique

Protocol summary

Study aim

Evaluation of clinical parameters following application of typical suture technique in comparison with no suture for surgery of extraction of impacted third molar

Design

Randomized clinical trial, No blinded, control group without placebo

Settings and conduct

In this study, which will be conducted at Zahedan School of Dentistry, 30 patients will be selected for surgery with hardness grades 2 and 3 and the maximum difference between the two sides in terms of degree of hardness and classification 1 and in terms of trauma surgery on both sides in the same way. Randomly, for each side of the patient, one of the methods studied will be used following the third latent molar surgery. Patients will be called for follow-up at specific intervals, and the amount of pain, swelling, and trismus will be measured during these sessions.

Participants/Inclusion and exclusion criteria

Patients with no history of systemic disease who have a bilateral mandibular impacted third molar with the surgery hardness degree of maximum 7 and the classification of winter at mesioangular or vertical position and in terms of latency level A or B and class I or II in classification of Pell & Gregory. surgery with hardness grades 2 and 3 and the maximum difference between the two sides in terms of degree of hardness and classification 1 and in terms of trauma surgery on both sides in the same way.

Intervention groups

Test group: The third molar dental surgery is followed by no suture Control group: Performing the third molar dental surgery and then using the usual suture technique

Main outcome variables

Pain; Swelling; Trismus

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20180515039664N3**

Registration date: **2020-05-28, 1399/03/08**

Registration timing: **registered_while_recruiting**

Last update: **2020-05-28, 1399/03/08**

Update count: **0**

Registration date

2020-05-28, 1399/03/08

Registrant information

Name

Sina Hakimi

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 21 2272 9626

Email address

sinahakimi@irimc.org

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2020-05-21, 1399/03/01

Expected recruitment end date

2020-06-21, 1399/04/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparative study of pain, swelling and trismus after mandibular impacted third molar tooth surgery with conventional sutured and sutureless technique

Public title

Investigating the effect of suture technique on treatment outcomes following mandibular third molar dental surgery

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Existence of mandibular third molar with the degree of latency A and B and class I and II (based on Pell & Gregory classification) Informed consent to participate in the study surgery with hardness grades 2 and 3 and the maximum difference between the two sides in terms of degree of hardness and classification 1 and in terms of trauma surgery on both sides in the same way.

Exclusion criteria:

Existence of any systemic disease Existence of decay pregnancy or lactation Take any coagulation medication

Age

From **16 years** old to **55 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **30**

Randomization (investigator's opinion)

Randomized

Randomization description

Flipping a coin will be used for randomization

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of Zahedan University of Medical Sciences

Street address

ZAUMS Main campus, Jenat Boulevard., Zahedan, Sistan and Baluchestan, Iran

City

Zahedan

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Sistan-va-Balouchestan

Postal code

9816743463

Approval date

2020-05-03, 1399/02/14

Ethics committee reference number

IR.ZAUMS.REC.1399.044

Health conditions studied

1

Description of health condition studied

Impacted tooth

ICD-10 code

K01.1

ICD-10 code description

Impacted teeth

Primary outcomes

1

Description

Pain

Timepoint

1st, 3rd, 7th, and 15th day after surgery

Method of measurement

VAS pain scale

2

Description

swelling

Timepoint

1st, 3rd, 7th, and 15th day after surgery

Method of measurement

Clinical examination

3

Description

Trismus

Timepoint

1st, 3rd, 7th, and 15th day after surgery

Method of measurement

Clinical examination

Secondary outcomes

empty

Intervention groups

1

Description

Control group: Injection of two lidocaine cartridges with the main anesthesia technique involves the use of an alveolar inferior nerve block (IANB) and Long buccally

nerve block, then a triangular Fullthickness flap in the second and third molar teeth with a buccally inclination, followed by NSK surgical osteotomy. Vmax, made in Japan (35,000 rpm), will be followed by tooth extraction and silent washing with 40 ml of sterile serum, followed by suturing with a non-absorbent Silk floss of 3-0 by Simple loop suture technique

Category

Treatment - Surgery

2

Description

Intervention group: Injection of two lidocaine cartridges with the main anesthesia technique involves the use of an alveolar inferior nerve block (IANB) and Long buccally nerve block, then a triangular Fullthickness flap in the second and third molar teeth with a buccally inclination, followed by NSK surgical osteotomy. Vmax, made in Japan (35,000 rpm), will be followed by tooth extraction and silent washing with 40 ml of sterile serum, followed by the soft tissue will then be returned to its original position, but no sutures will be placed on it, and a small sterile gauze pad will be placed on it for at least 1 hour.

Category

Treatment - Surgery

Recruitment centers

1

Recruitment center

Name of recruitment center

Zahedan university of medical sciences

Full name of responsible person

Sina Hakimi

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Zahedan University of Medical Sciences

Full name of responsible person

Dr. Nourmohammad Bakhshani

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Grant name

Grant code / Reference number

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

Public

Domestic or foreign origin

Domestic

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

Academic

Person responsible for general inquiries

Contact

Name of organization / entity

Zahedan University of Medical Sciences

Full name of responsible person

Roya Moradi Gohort

Position

Dentistry student

Latest degree

A Level or less

Other areas of specialty/work

Dentistry

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Person responsible for scientific inquiries

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Name of organization / entity

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Full name of responsible person

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Position

Assistant professor

Latest degree

Specialist

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Sharing plan**Deidentified Individual Participant Data Set (IPD)**

Undecided - It is not yet known if there will be a plan to make this available

Study Protocol

Undecided - It is not yet known if there will be a plan to make this available

Statistical Analysis Plan

Undecided - It is not yet known if there will be a plan to make this available

Informed Consent Form

Undecided - It is not yet known if there will be a plan to make this available

Clinical Study Report

Undecided - It is not yet known if there will be a plan to make this available

Analytic Code

Undecided - It is not yet known if there will be a plan to make this available

Data Dictionary

Undecided - It is not yet known if there will be a plan to make this available

Person responsible for updating data**Contact****Name of organization / entity**

Zahedan University of Medical Sciences

Full name of responsible person

Roya Moradi Gohort

Position

Dentistry Student

Latest degree

A Level or less

Other areas of specialty/work

Dentistry

Street address