Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Nov 2026

Comparison of effectiveness of three types of irrigating solutions on the complications after mandibular third molar surgery

Protocol summary

Study aim
Comparison of effectiveness of three types of irrigating solutions on the complications after mandibular third molar surgery

Design
A clinical trial with a control group , with parallel groups design , not blinded, on 78 patients divided into three groups

Settings and conduct
Patients with impacted mandibular third molars who refer to Ahvaz dental School during the study, will be included in the study if they are eligible .

Participants/Inclusion and exclusion criteria
Inclusion criteria : Men and women in the age range of 18 to 30 years ; Healthy patients without any systemic disorders Exclusion criteria : Previous history of head and neck radiotherapy ; organ transplantation ; acute infection 7 days before surgery in the desired area ; pregnant and Breastfeeding mothers

Intervention groups
Mandibular third molar removal surgery is done using the standard technique , unilaterally and in a single visit. During the surgery, surgery area will be irrigated with a 10cc irrigation syringe (Avapezeshk , Iran) . Intervention group 1: Nanosilver solution with 10 ppm concentration (Nanosadra , Iran) will be used to irrigate the area . Intervention group 2 : Chlorhexidine gluconate 0/2% solution (Irannajo , Iran) will be used to irrigate the area . Control group : Normal saline 0/9% solution (Daroupakhsh , Iran) will be used to irrigate the area . At the end , in all groups ,the flap will be sutured with 3-0 silk suture (Supa , Iran).

Main outcome variables
Size of facial swelling ; intensity of pain ; Maximum mouth opening (Trismus) ; Incidence of infection ; incidence of Alveolar osteitis

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20200815048411N1**
Registration date: **2020-08-30, 1399/06/09**
Registration timing: **prospective**

Last update: **2020-08-30, 1399/06/09**
Update count: **0**

Registration date
2020-08-30, 1399/06/09

Registrant information

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Name of organization / entity

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2020-09-05, 1399/06/15

Expected recruitment end date
2020-11-07, 1399/08/17

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title

Comparison of effectiveness of three types of irrigating solutions on the complications after mandibular third molar surgery

Public title
Comparison of the effect of three types of irrigation solution on complications after impacted wisdom tooth surgery
Purpose
Supportive
Inclusion/Exclusion criteria
Inclusion criteria:
The patient is healthy and does not have any systemic disorders Patients with wisdom teeth embedded in the mandible Do not take any antibiotics or anti-inflammatory drugs for at least 7 days before surgery
Exclusion criteria:
Previous history of head and neck radiotherapy Having organ transplantation Diabetics People with a history of epilepsy and seizures Having an acute infection, 7 days before surgery, in the desired area Smokers Pregnant women Breastfeeding mothers Chlorhexidine allergy sufferers Bisphosphonates users Steroids users A patient who is unable to give voluntary consent
Age
From **18 years** old to **30 years** old
Gender
Both

Phase
2
Groups that have been masked
No information
Sample size
Target sample size: **78**
Randomization (investigator's opinion)
Not randomized
Randomization description
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 Ahvaz Jundishapur University of Medical Sciences
Street address
Vice Chancellor of research and technology of Ahvaz Jundishapur University of Medical Sciences , University city , Ahvaz
City
Ahvaz
Province
Khouzestan
Postal code
15794 - 61357
Approval date
2019-11-09, 1398/08/18
Ethics committee reference number
IR.AJUMS.REC.1398.560

Health conditions studied

1

Description of health condition studied
Impacted mandibular third molar
ICD-10 code
K01.1
ICD-10 code description
Impacted teeth

Primary outcomes

1

Description
Pain intensity
Timepoint
The first, third, fifth and seventh days after surgery
Method of measurement
Based on the Visual Analogue Scale question table

2

Description
Size of facial swelling
Timepoint
Before surgery and the third and seventh days after surgery
Method of measurement
Clinical examination

3

Description
Trismus
Timepoint
Before surgery and the first, third and seventh days after surgery
Method of measurement
Clinical examination

4

Description
Infection
Timepoint
The third and seventh days after surgery
Method of measurement
Clinical examination

5

Description
Alveolar osteitis
Timepoint
The third and seventh days after surgery
Method of measurement
Clinical examination

Secondary outcomes

empty

Intervention groups

1

Description
Control group :In Patients who needs surgical extraction of impacted mandibular third molar that having inclusion criteria , surgery will be done unilaterally ,using standard technique in single visit. During the surgery, surgery area will be continuously irrigated using a 10cc irrigation syringe (Avapezeshk , Iran) and Normal saline 0.9% solution (Daroupakhsh , Iran). At the end, the flap will be sutured with 3-0 silk suture (Supa, Iran).
Category
Treatment - Surgery

2

Description
Intervention group 1: In Patients who needs surgical extraction of impacted mandibular third molar that having inclusion criteria , surgery will be done unilaterally , using standard technique in single visit . During the surgery, surgery area will be continuously irrigated using a 10 cc irrigation syringe (Avapezeshk , Iran) and Nanosilver solution with 10 ppm concentration (Nnosadra , Iran). At the end , the flap will be sutured with 3-0 silk suture (Supa, Iran).
Category
Treatment - Surgery

3

Description
Intervention group 2 : In Patients who needs surgical extraction of impacted mandibular third molar that having inclusion criteria , surgery will be done unilaterally , using standard technique in single visit. During the surgery, surgery area will be continuously irrigated using a 10 cc irrigation syringe (Avapezeshk , Iran) and Chlorhexidine gluconate 0.2% (Irannajo , Iran). At the end , the flap will be sutured with 3-0 silk suture (Supa, Iran).
Category
Treatment - Surgery

Recruitment centers

1

Recruitment center
Name of recruitment center
Ahvaz Dental College
Full name of responsible person
Ershad Hemmati
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Sponsors / Funding sources

1

Sponsor
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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
Ahvaz 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
Ahvaz University of Medical Sciences
Full name of responsible person
Ershad Hemmati
Position
Assistant professor
Latest degree
Specialist
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Person responsible for updating data

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Sharing plan

Deidentified Individual Participant Data Set (IPD)
Yes - There is a plan to make this available
Study Protocol
Yes - There is a plan to make this available
Statistical Analysis Plan
No - There is not a plan to make this available
Informed Consent Form
No - There is not a plan to make this available
Clinical Study Report
No - There is not a plan to make this available
Analytic Code
Not applicable
Data Dictionary
Not applicable
Title and more details about the data/document
All data is accessible after being unidentified.
When the data will become available and for how long
3 months after publishing results
To whom data/document is available
Academic institutions
Under which criteria data/document could be used
Research project
From where data/document is obtainable
Dental college of Ahvaz Jundishapur University of Medical sciences
What processes are involved for a request to access data/document
Submit a request to the research department of the Dental college
Comments