Clinical Trial Protocol
Iranian Registry of Clinical Trials

16 Sep 2026

Comparison of the effect of four suture materials on the accumulation of streptococcus mutans and staphylococcus aureus microorganisms in patients undergoing dental implant surgery

Protocol summary

Study aim
comparison of the effect of Vicryl Plus, Vicryl, Silk and Nylon sutures on the accumulation of Streptococcus Mutans and Staphylococcus Aureus in patients undergoing Implant Surgery

Design
clinical trial with control group; four parallel group in 20 patient; double blind; randomized

Settings and conduct
surgical area is randomly divided into four sites, and each suture materials including vicryl, vicrtyl plus , silk and Nylon will be placed in each surgical site at a distance of three millimeters from the adjacent suture. One week after the surgery, the sutures will be separated and placed in a BHI transfer suspension and transmitted to the microbiological laboratory within twelve hours.Then microorganisms will be cultivate to the specific culture medium of each bacteria from the fluid transfer medium. After culture on the media and placing the culture plate in an incubator at 37 ° C for twenty-four hours, the growth of the bacteria will be checked and the number of colonies (CFU units) will be counted.

Participants/Inclusion and exclusion criteria
patients who indicated implant surgery of two adjacent implants, constitute the statistical population of the study. patients with periodontal disease, systemic diseases, or taking other medicines will be excluded from the study

Intervention groups
First intervention group: use of Vicryl plus suture that is multi-strand and contains Triclosan as an antimicrobial material. Second intervention group: use of Vicryl suture that is similar to Vicryl plus but has no Triclosan. Third intervention group: use of nylon suture as a Single-thread suture material Control group: use of silk suture that is multi-strand and is considered as the most commonly used suture in periodontal surguries

Main outcome variables
accumulation of bacteria on surgucal sutures

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20180714040460N1**
Registration date: **2018-12-12, 1397/09/21**
Registration timing: **retrospective**

Last update: **2018-12-12, 1397/09/21**
Update count: **0**

Registration date
2018-12-12, 1397/09/21

Registrant information

Name
Nima Nadafpour

Name of organization / entity

Country
Iran (Islamic Republic of)

Phone
+98 21 2256 4571

Email address
n_nadaf@dentaliau.ac.ir

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2018-11-03, 1397/08/12

Expected recruitment end date
2018-12-03, 1397/09/12

Actual recruitment start date
empty

Actual recruitment end date
empty
Trial completion date
empty

Scientific title
Comparison of the effect of four suture materials on the accumulation of streptococcus mutans and staphylococcus aureus microorganisms in patients undergoing dental implant surgery

Public title
Accumulation of oral microorganisms around the suture materials in implant surgery
Purpose
Prevention
Inclusion/Exclusion criteria
Inclusion criteria:
All patients who have indication for implant surgury in at least two adjacent implant sites
Exclusion criteria:
to have periodontal diseases to have systemic diseases to take other medicines
Age
No age limit
Gender
Both

Phase
N/A
Groups that have been masked

- Participant
- Outcome assessor

Sample size
Target sample size: **20**
More than 1 sample in each individual
Number of samples in each individual: **4**
very patient has four suture materials in his mouth as sample
Randomization (investigator's opinion)
Randomized
Randomization description
Simple randomization by sealed envelope containing numerical codes which allocated to any type of suture materials
Blinding (investigator's opinion)
Double blinded
Blinding description
After implantation, the surgeon uses four types of suture materials with random sequences and one week after surgery, sutures will be delivered to the microbiologist as numerical codes so microbiologist and patient don't know the type of sutures
Placebo
Not used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics committee of central organization of Islamic Azad university
Street address
No. 4, Neyestan 10, Pasdaran Ave
City
Tehran
Province
Tehran
Postal code
19585175
Approval date
2018-10-13, 1397/07/21
Ethics committee reference number
IR.IAU.DENTAL.REC.1397.012

Health conditions studied

1

Description of health condition studied
surgical site infection around surgical suture materials
ICD-10 code
A48.8
ICD-10 code description
Other specified bacterial diseases

Primary outcomes

1

Description
accumulation of bacteria on surgical sutures
Timepoint
counting colony forming units after bacterial culture on culture medium
Method of measurement
Counts of colonies with naked eye

Secondary outcomes

empty

Intervention groups

1

Description
First intervention group: use of Vicryl plus suture that is multi-strand and contains Triclosan as an antimicrobial material
Category
Prevention

2

Description

Second intervention group: use of Vicryl suture that is similar to Vicryl plus but has no Triclosan

Category

Prevention

3

Description

Third intervention group: use of nylon suture as a Single-thread suture material

Category

Prevention

4

Description

Control group: use of silk suture that is multi-strand and is considered as the most commonly used suture in periodontal surgeries

Category

Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center

private office of Dr.Nima Naddaf pour

Full name of responsible person

Nima Naddaf pour

Street address

Unit. 24, No.38, Juy pa alley, Sarv cross, Paknejad blvd, Saadat Aabad Town

City

Tehran

Province

Tehran

Postal code

1998798331

Phone

+98 21 2676 7768

Email

n_nadaf@dentaliau.ac.ir

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Islamic Azad University

Full name of responsible person

Ardavan Etemadi

Street address

No. 4, Neyestan 10, Pasdaran Ave

City

Tehran

Province

Tehran

Postal code

19585175

Phone

+98 21 2256 4570

Email

a-etemadi@farabi.tums.ac.ir

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Islamic Azad University

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

Islamic Azad University

Full name of responsible person

Nima Nadafpour

Position

Associate professor

Latest degree

Specialist

Other areas of specialty/work

Dentistry

Street address

Unit.24 ,No.38 ,Juy pa alley , Sarv cross ,Paknejad blvd ,Saadat Aabad Town

City

Tehran

Province

Tehran

Postal code

1998798331

Phone

+98 21 2676 7768

Fax

Email

n_nadaf@dentaliau.ac.ir

Person responsible for scientific inquiries

Contact

Name of organization / entity

Islamic Azad University

Full name of responsible person

Nima Nadafpour

Position

Associate professor

Latest degree

Specialist

Other areas of specialty/work

Dentistry

Street address

Unit.24, No.38, Juy pa alley, Sarv cross, Paknejad blvd , Saadat Aabad Town

City

Tehran

Province

Tehran

Postal code

1998798331

Phone

+98 21 2676 7768

Fax

Email

n_nadaf@dentaliau.ac.ir

Person responsible for updating data

Contact

Name of organization / entity

Islamic Azad University

Full name of responsible person

Nima Nadafpour

Position

Associate professor

Latest degree

Specialist

Other areas of specialty/work

Dentistry

Street address

Unit.24, No.38, Juy pa alley, Sarv cross, Paknejad blvd, Saadat Aabad Town

City

Tehran

Province

Tehran

Postal code

1998798331

Phone

+98 21 2676 7768

Fax

Email

n_nadaf@dentaliau.ac.ir

Sharing plan

Deidentified Individual Participant Data Set (IPD)

No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD

There is no more information with respect to the subject

Study Protocol

No - There is not 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

No - There is not a plan to make this available

Data Dictionary

No - There is not a plan to make this available